

**Annex 3B. Manure Management (IPCC 3A2)
to the Technical Support Document for California's 2000-2014 Greenhouse Gas
Emission Inventory**

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Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

IPCC category = 3A2ai — Livestock - Manure Management - Cattle - Dairy Cows

Activity = Livestock population - Dairy cows - Anaerobic digester

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy cows	2000	808 head	Calculation, see text
Livestock population - Dairy cows	2001	5,695 head	Calculation, see text
Livestock population - Dairy cows	2002	13,655 head	Calculation, see text
Livestock population - Dairy cows	2003	21,296 head	Calculation, see text
Livestock population - Dairy cows	2004	24,572 head	Calculation, see text
Livestock population - Dairy cows	2005	43,473 head	Calculation, see text
Livestock population - Dairy cows	2006	21,113 head	Calculation, see text
Livestock population - Dairy cows	2007	61,431 head	Calculation, see text
Livestock population - Dairy cows	2008	42,566 head	Calculation, see text
Livestock population - Dairy cows	2009	20,756 head	Calculation, see text
Livestock population - Dairy cows	2010	21,821 head	Calculation, see text
Livestock population - Dairy cows	2011	21,564 head	Calculation, see text
Livestock population - Dairy cows	2012	21,647 head	Calculation, see text
Livestock population - Dairy cows	2013	21,101 head	Calculation, see text
Livestock population - Dairy cows	2014	21,286 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2001	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2002	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2003	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2004	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2005	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2006	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2007	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2008	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2009	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2010	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2011	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2012	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2013	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2014	0 g / g	TSD Manure Management
Maximum methane production capacity	2000	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.24 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2000	0.133	Wirth, 2015
Methane conversion factor	2001	0.0414	Wirth, 2015
Methane conversion factor	2002	0.0331	Wirth, 2015
Methane conversion factor	2003	0.0798	Wirth, 2015
Methane conversion factor	2004	0.0723	Wirth, 2015
Methane conversion factor	2005	0.119	Wirth, 2015
Methane conversion factor	2006	0.173	Wirth, 2015
Methane conversion factor	2007	0.167	Wirth, 2015
Methane conversion factor	2008	0.183	Wirth, 2015
Methane conversion factor	2009	0.174	Wirth, 2015
Methane conversion factor	2010	0.174	Wirth, 2015
Methane conversion factor	2011	0.181	Wirth, 2015
Methane conversion factor	2012	0.181	Wirth, 2015
Methane conversion factor	2013	0.181	Wirth, 2015
Methane conversion factor	2014	0.181	Wirth, 2015
Nitrogen excretion rate	2000	164,961 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	163,859 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	165,208 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	164,181 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	158,128 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	159,037 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	160,447 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	160,062 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	154,033 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	152,928 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	156,216 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	157,543 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	157,605 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	156,707 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	158,656 g / year	USEPA, 2013d
Proportion in manure management system	2000	5.369E-04	Wirth, 2015
Proportion in manure management system	2001	3.718E-03	Wirth, 2015
Proportion in manure management system	2002	8.302E-03	Wirth, 2015
Proportion in manure management system	2003	0.0126	Wirth, 2015
Proportion in manure management system	2004	0.0145	Wirth, 2015
Proportion in manure management system	2005	0.0251	Wirth, 2015
Proportion in manure management system	2006	0.012	Wirth, 2015
Proportion in manure management system	2007	0.0334	Wirth, 2015
Proportion in manure management system	2008	0.023	Wirth, 2015
Proportion in manure management system	2009	0.0114	Wirth, 2015
Proportion in manure management system	2010	0.0119	Wirth, 2015
Proportion in manure management system	2011	0.0119	Wirth, 2015
Proportion in manure management system	2012	0.0119	Wirth, 2015
Proportion in manure management system	2013	0.0119	Wirth, 2015
Proportion in manure management system	2014	0.0119	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	TSD Manure Management
Runoff fraction	2001	8.000E-03	TSD Manure Management
Runoff fraction	2002	8.000E-03	TSD Manure Management
Runoff fraction	2003	8.000E-03	TSD Manure Management
Runoff fraction	2004	8.000E-03	TSD Manure Management
Runoff fraction	2005	8.000E-03	TSD Manure Management
Runoff fraction	2006	8.000E-03	TSD Manure Management
Runoff fraction	2007	8.000E-03	TSD Manure Management
Runoff fraction	2008	8.000E-03	TSD Manure Management
Runoff fraction	2009	8.000E-03	TSD Manure Management
Runoff fraction	2010	8.000E-03	TSD Manure Management
Runoff fraction	2011	8.000E-03	TSD Manure Management
Runoff fraction	2012	8.000E-03	TSD Manure Management
Runoff fraction	2013	8.000E-03	TSD Manure Management
Runoff fraction	2014	8.000E-03	TSD Manure Management
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	1,505,301 head	TSD Manure Management
Total population	2001	1,531,790 head	TSD Manure Management
Total population	2002	1,644,692 head	USDA and CDFA, Various years
Total population	2003	1,687,010 head	USDA and CDFA, Various years
Total population	2004	1,698,713 head	USDA and CDFA, Various years
Total population	2005	1,731,261 head	TSD Manure Management
Total population	2006	1,754,995 head	USDA and CDFA, Various years
Total population	2007	1,840,730 head	TSD Manure Management
Total population	2008	1,854,657 head	USDA and CDFA, Various years
Total population	2009	1,820,095 head	TSD Manure Management
Total population	2010	1,830,308 head	TSD Manure Management
Total population	2011	1,808,719 head	USDA and CDFA, Various years
Total population	2012	1,815,655 head	USDA and CDFA, Various years
Total population	2013	1,769,888 head	USDA and CDFA, Various years
Total population	2014	1,785,403 head	TSD Manure Management
Volatile solids production rate	2000	2,574 kg / year	Wirth, 2015
Volatile solids production rate	2001	2,555 kg / year	Wirth, 2015
Volatile solids production rate	2002	2,582 kg / year	Wirth, 2015
Volatile solids production rate	2003	2,561 kg / year	Wirth, 2015
Volatile solids production rate	2004	2,487 kg / year	Wirth, 2015
Volatile solids production rate	2005	2,505 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2006	2,534 kg / year	Wirth, 2015
Volatile solids production rate	2007	2,770 kg / year	Wirth, 2015
Volatile solids production rate	2008	2,749 kg / year	Wirth, 2015
Volatile solids production rate	2009	2,724 kg / year	Wirth, 2015
Volatile solids production rate	2010	2,800 kg / year	Wirth, 2015
Volatile solids production rate	2011	2,831 kg / year	Wirth, 2015
Volatile solids production rate	2012	2,833 kg / year	Wirth, 2015
Volatile solids production rate	2013	2,812 kg / year	Wirth, 2015
Volatile solids production rate	2014	2,857 kg / year	Wirth, 2015
Volatilized fraction	2000	0.43	TSD Manure Management
Volatilized fraction	2001	0.43	TSD Manure Management
Volatilized fraction	2002	0.43	TSD Manure Management
Volatilized fraction	2003	0.43	TSD Manure Management
Volatilized fraction	2004	0.43	TSD Manure Management
Volatilized fraction	2005	0.43	TSD Manure Management
Volatilized fraction	2006	0.43	TSD Manure Management
Volatilized fraction	2007	0.43	TSD Manure Management
Volatilized fraction	2008	0.43	TSD Manure Management
Volatilized fraction	2009	0.43	TSD Manure Management
Volatilized fraction	2010	0.43	TSD Manure Management
Volatilized fraction	2011	0.43	TSD Manure Management
Volatilized fraction	2012	0.43	TSD Manure Management
Volatilized fraction	2013	0.43	TSD Manure Management
Volatilized fraction	2014	0.43	TSD Manure Management

Activity = Livestock population - Dairy cows - Anaerobic lagoon

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy cows	2000	868,785 head	Calculation, see text
Livestock population - Dairy cows	2001	886,695 head	Calculation, see text
Livestock population - Dairy cows	2002	954,202 head	Calculation, see text
Livestock population - Dairy cows	2003	978,404 head	Calculation, see text
Livestock population - Dairy cows	2004	985,698 head	Calculation, see text
Livestock population - Dairy cows	2005	996,097 head	Calculation, see text
Livestock population - Dairy cows	2006	1,016,968 head	Calculation, see text
Livestock population - Dairy cows	2007	1,041,579 head	Calculation, see text
Livestock population - Dairy cows	2008	1,067,297 head	Calculation, see text
Livestock population - Dairy cows	2009	1,059,869 head	Calculation, see text
Livestock population - Dairy cows	2010	1,064,982 head	Calculation, see text
Livestock population - Dairy cows	2011	1,052,420 head	Calculation, see text
Livestock population - Dairy cows	2012	1,056,456 head	Calculation, see text
Livestock population - Dairy cows	2013	1,029,826 head	Calculation, see text
Livestock population - Dairy cows	2014	1,038,854 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.24 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.718	Wirth, 2015
Methane conversion factor	2001	0.742	Wirth, 2015
Methane conversion factor	2002	0.733	Wirth, 2015
Methane conversion factor	2003	0.745	Wirth, 2015
Methane conversion factor	2004	0.724	Wirth, 2015
Methane conversion factor	2005	0.737	Wirth, 2015
Methane conversion factor	2006	0.728	Wirth, 2015
Methane conversion factor	2007	0.728	Wirth, 2015
Methane conversion factor	2008	0.745	Wirth, 2015
Methane conversion factor	2009	0.737	Wirth, 2015
Methane conversion factor	2010	0.729	Wirth, 2015
Methane conversion factor	2011	0.729	Wirth, 2015
Methane conversion factor	2012	0.752	Wirth, 2015
Methane conversion factor	2013	0.731	Wirth, 2015
Methane conversion factor	2014	0.731	Wirth, 2015
Nitrogen excretion rate	2000	164,961 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	163,859 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	165,208 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	164,181 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	158,128 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	159,037 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	160,447 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	160,062 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	154,033 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	152,928 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	156,216 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	157,543 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	157,605 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	156,707 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	158,656 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.577	Wirth, 2015
Proportion in manure management system	2001	0.579	Wirth, 2015
Proportion in manure management system	2002	0.58	Wirth, 2015
Proportion in manure management system	2003	0.58	Wirth, 2015
Proportion in manure management system	2004	0.58	Wirth, 2015
Proportion in manure management system	2005	0.575	Wirth, 2015
Proportion in manure management system	2006	0.579	Wirth, 2015
Proportion in manure management system	2007	0.566	Wirth, 2015
Proportion in manure management system	2008	0.575	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2009	0.582	Wirth, 2015
Proportion in manure management system	2010	0.582	Wirth, 2015
Proportion in manure management system	2011	0.582	Wirth, 2015
Proportion in manure management system	2012	0.582	Wirth, 2015
Proportion in manure management system	2013	0.582	Wirth, 2015
Proportion in manure management system	2014	0.582	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	1,505,301 head	TSD Manure Management
Total population	2001	1,531,790 head	USDA and CDFA, Various years
Total population	2002	1,644,692 head	USDA and CDFA, Various years
Total population	2003	1,687,010 head	TSD Manure Management

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2004	1,698,713 head	USDA and CDFA, Various years
Total population	2005	1,731,261 head	TSD Manure Management
Total population	2006	1,754,995 head	USDA and CDFA, Various years
Total population	2007	1,840,730 head	TSD Manure Management
Total population	2008	1,854,657 head	TSD Manure Management
Total population	2009	1,820,095 head	TSD Manure Management
Total population	2010	1,830,308 head	USDA and CDFA, Various years
Total population	2011	1,808,719 head	USDA and CDFA, Various years
Total population	2012	1,815,655 head	TSD Manure Management
Total population	2013	1,769,888 head	TSD Manure Management
Total population	2014	1,785,403 head	USDA and CDFA, Various years
Volatile solids production rate	2000	2,574 kg / year	Wirth, 2015
Volatile solids production rate	2001	2,555 kg / year	Wirth, 2015
Volatile solids production rate	2002	2,582 kg / year	Wirth, 2015
Volatile solids production rate	2003	2,561 kg / year	Wirth, 2015
Volatile solids production rate	2004	2,487 kg / year	Wirth, 2015
Volatile solids production rate	2005	2,505 kg / year	Wirth, 2015
Volatile solids production rate	2006	2,534 kg / year	Wirth, 2015
Volatile solids production rate	2007	2,770 kg / year	Wirth, 2015
Volatile solids production rate	2008	2,749 kg / year	Wirth, 2015
Volatile solids production rate	2009	2,724 kg / year	Wirth, 2015
Volatile solids production rate	2010	2,800 kg / year	Wirth, 2015
Volatile solids production rate	2011	2,831 kg / year	Wirth, 2015
Volatile solids production rate	2012	2,833 kg / year	Wirth, 2015
Volatile solids production rate	2013	2,812 kg / year	Wirth, 2015
Volatile solids production rate	2014	2,857 kg / year	Wirth, 2015
Volatilized fraction	2000	0.43	Wirth, 2015
Volatilized fraction	2001	0.43	Wirth, 2015
Volatilized fraction	2002	0.43	Wirth, 2015
Volatilized fraction	2003	0.43	Wirth, 2015
Volatilized fraction	2004	0.43	Wirth, 2015
Volatilized fraction	2005	0.43	Wirth, 2015
Volatilized fraction	2006	0.43	Wirth, 2015
Volatilized fraction	2007	0.43	Wirth, 2015
Volatilized fraction	2008	0.43	Wirth, 2015
Volatilized fraction	2009	0.43	Wirth, 2015
Volatilized fraction	2010	0.43	Wirth, 2015
Volatilized fraction	2011	0.43	Wirth, 2015
Volatilized fraction	2012	0.43	Wirth, 2015
Volatilized fraction	2013	0.43	Wirth, 2015
Volatilized fraction	2014	0.43	Wirth, 2015

Activity = Livestock population - Dairy cows - Daily spread

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy cows	2000	164,024 head	Calculation, see text
Livestock population - Dairy cows	2001	166,187 head	Calculation, see text
Livestock population - Dairy cows	2002	177,658 head	Calculation, see text
Livestock population - Dairy cows	2003	181,388 head	Calculation, see text
Livestock population - Dairy cows	2004	181,798 head	Calculation, see text
Livestock population - Dairy cows	2005	184,418 head	Calculation, see text
Livestock population - Dairy cows	2006	186,070 head	Calculation, see text
Livestock population - Dairy cows	2007	194,241 head	Calculation, see text
Livestock population - Dairy cows	2008	195,711 head	Calculation, see text
Livestock population - Dairy cows	2009	192,064 head	Calculation, see text
Livestock population - Dairy cows	2010	193,141 head	Calculation, see text
Livestock population - Dairy cows	2011	190,863 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Dairy cows	2012	191,595 head	Calculation, see text
Livestock population - Dairy cows	2013	186,766 head	Calculation, see text
Livestock population - Dairy cows	2014	188,403 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.24 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	5.000E-03	Wirth, 2015
Methane conversion factor	2001	5.000E-03	Wirth, 2015
Methane conversion factor	2002	5.000E-03	Wirth, 2015
Methane conversion factor	2003	5.000E-03	Wirth, 2015
Methane conversion factor	2004	5.000E-03	Wirth, 2015
Methane conversion factor	2005	5.000E-03	Wirth, 2015
Methane conversion factor	2006	5.000E-03	Wirth, 2015
Methane conversion factor	2007	5.000E-03	Wirth, 2015
Methane conversion factor	2008	5.000E-03	Wirth, 2015
Methane conversion factor	2009	5.000E-03	Wirth, 2015
Methane conversion factor	2010	5.000E-03	Wirth, 2015
Methane conversion factor	2011	5.000E-03	Wirth, 2015
Methane conversion factor	2012	5.000E-03	Wirth, 2015
Methane conversion factor	2013	5.000E-03	Wirth, 2015
Methane conversion factor	2014	5.000E-03	Wirth, 2015
Nitrogen excretion rate	2000	164,961 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	163,859 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	165,208 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	164,181 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	158,128 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	159,037 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	160,447 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2007	160,062 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	154,033 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	152,928 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	156,216 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	157,543 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	157,605 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	156,707 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	158,656 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.109	Wirth, 2015
Proportion in manure management system	2001	0.108	Wirth, 2015
Proportion in manure management system	2002	0.108	Wirth, 2015
Proportion in manure management system	2003	0.108	Wirth, 2015
Proportion in manure management system	2004	0.107	Wirth, 2015
Proportion in manure management system	2005	0.107	Wirth, 2015
Proportion in manure management system	2006	0.106	Wirth, 2015
Proportion in manure management system	2007	0.106	Wirth, 2015
Proportion in manure management system	2008	0.106	Wirth, 2015
Proportion in manure management system	2009	0.106	Wirth, 2015
Proportion in manure management system	2010	0.106	Wirth, 2015
Proportion in manure management system	2011	0.106	Wirth, 2015
Proportion in manure management system	2012	0.106	Wirth, 2015
Proportion in manure management system	2013	0.106	Wirth, 2015
Proportion in manure management system	2014	0.106	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	1,505,301 head	TSD Manure Management
Total population	2001	1,531,790 head	TSD Manure Management
Total population	2002	1,644,692 head	TSD Manure Management
Total population	2003	1,687,010 head	USDA and CDFA, Various years
Total population	2004	1,698,713 head	TSD Manure Management
Total population	2005	1,731,261 head	USDA and CDFA, Various years
Total population	2006	1,754,995 head	USDA and CDFA, Various years
Total population	2007	1,840,730 head	TSD Manure Management
Total population	2008	1,854,657 head	TSD Manure Management
Total population	2009	1,820,095 head	USDA and CDFA, Various years
Total population	2010	1,830,308 head	USDA and CDFA, Various years
Total population	2011	1,808,719 head	TSD Manure Management
Total population	2012	1,815,655 head	USDA and CDFA, Various years
Total population	2013	1,769,888 head	USDA and CDFA, Various years
Total population	2014	1,785,403 head	USDA and CDFA, Various years
Volatile solids production rate	2000	2,574 kg / year	Wirth, 2015
Volatile solids production rate	2001	2,555 kg / year	Wirth, 2015
Volatile solids production rate	2002	2,582 kg / year	Wirth, 2015
Volatile solids production rate	2003	2,561 kg / year	Wirth, 2015
Volatile solids production rate	2004	2,487 kg / year	Wirth, 2015
Volatile solids production rate	2005	2,505 kg / year	Wirth, 2015
Volatile solids production rate	2006	2,534 kg / year	Wirth, 2015
Volatile solids production rate	2007	2,770 kg / year	Wirth, 2015
Volatile solids production rate	2008	2,749 kg / year	Wirth, 2015
Volatile solids production rate	2009	2,724 kg / year	Wirth, 2015
Volatile solids production rate	2010	2,800 kg / year	Wirth, 2015
Volatile solids production rate	2011	2,831 kg / year	Wirth, 2015
Volatile solids production rate	2012	2,833 kg / year	Wirth, 2015
Volatile solids production rate	2013	2,812 kg / year	Wirth, 2015
Volatile solids production rate	2014	2,857 kg / year	Wirth, 2015
Volatilized fraction	2000	0.1	Wirth, 2015
Volatilized fraction	2001	0.1	Wirth, 2015
Volatilized fraction	2002	0.1	Wirth, 2015
Volatilized fraction	2003	0.1	Wirth, 2015
Volatilized fraction	2004	0.1	Wirth, 2015
Volatilized fraction	2005	0.1	Wirth, 2015
Volatilized fraction	2006	0.1	Wirth, 2015
Volatilized fraction	2007	0.1	Wirth, 2015
Volatilized fraction	2008	0.1	Wirth, 2015
Volatilized fraction	2009	0.1	Wirth, 2015
Volatilized fraction	2010	0.1	Wirth, 2015
Volatilized fraction	2011	0.1	Wirth, 2015
Volatilized fraction	2012	0.1	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2013	0.1	Wirth, 2015
Volatilized fraction	2014	0.1	Wirth, 2015
Activity = Livestock population - Dairy cows - Deep pit			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy cows	2000	3,503 head	Calculation, see text
Livestock population - Dairy cows	2001	3,525 head	Calculation, see text
Livestock population - Dairy cows	2002	3,742 head	Calculation, see text
Livestock population - Dairy cows	2003	3,420 head	Calculation, see text
Livestock population - Dairy cows	2004	3,022 head	Calculation, see text
Livestock population - Dairy cows	2005	2,651 head	Calculation, see text
Livestock population - Dairy cows	2006	2,252 head	Calculation, see text
Livestock population - Dairy cows	2007	1,906 head	Calculation, see text
Livestock population - Dairy cows	2008	1,920 head	Calculation, see text
Livestock population - Dairy cows	2009	1,885 head	Calculation, see text
Livestock population - Dairy cows	2010	1,895 head	Calculation, see text
Livestock population - Dairy cows	2011	1,873 head	Calculation, see text
Livestock population - Dairy cows	2012	1,880 head	Calculation, see text
Livestock population - Dairy cows	2013	1,833 head	Calculation, see text
Livestock population - Dairy cows	2014	1,849 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	2.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.24 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.306	Wirth, 2015
Methane conversion factor	2001	0.329	Wirth, 2015
Methane conversion factor	2002	0.314	Wirth, 2015
Methane conversion factor	2003	0.327	Wirth, 2015
Methane conversion factor	2004	0.312	Wirth, 2015
Methane conversion factor	2005	0.307	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2006	0.317	Wirth, 2015
Methane conversion factor	2007	0.316	Wirth, 2015
Methane conversion factor	2008	0.325	Wirth, 2015
Methane conversion factor	2009	0.316	Wirth, 2015
Methane conversion factor	2010	0.291	Wirth, 2015
Methane conversion factor	2011	0.293	Wirth, 2015
Methane conversion factor	2012	0.325	Wirth, 2015
Methane conversion factor	2013	0.323	Wirth, 2015
Methane conversion factor	2014	0.323	Wirth, 2015
Nitrogen excretion rate	2000	164,961 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	163,859 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	165,208 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	164,181 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	158,128 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	159,037 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	160,447 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	160,062 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	154,033 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	152,928 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	156,216 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	157,543 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	157,605 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	156,707 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	158,656 g / year	USEPA, 2013d
Proportion in manure management system	2000	2.327E-03	Wirth, 2015
Proportion in manure management system	2001	2.301E-03	Wirth, 2015
Proportion in manure management system	2002	2.275E-03	Wirth, 2015
Proportion in manure management system	2003	2.027E-03	Wirth, 2015
Proportion in manure management system	2004	1.779E-03	Wirth, 2015
Proportion in manure management system	2005	1.531E-03	Wirth, 2015
Proportion in manure management system	2006	1.283E-03	Wirth, 2015
Proportion in manure management system	2007	1.035E-03	Wirth, 2015
Proportion in manure management system	2008	1.035E-03	Wirth, 2015
Proportion in manure management system	2009	1.035E-03	Wirth, 2015
Proportion in manure management system	2010	1.035E-03	Wirth, 2015
Proportion in manure management system	2011	1.035E-03	Wirth, 2015
Proportion in manure management system	2012	1.035E-03	Wirth, 2015
Proportion in manure management system	2013	1.035E-03	Wirth, 2015
Proportion in manure management system	2014	1.035E-03	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	1,505,301 head	USDA and CDFA, Various years
Total population	2001	1,531,790 head	USDA and CDFA, Various years
Total population	2002	1,644,692 head	USDA and CDFA, Various years
Total population	2003	1,687,010 head	USDA and CDFA, Various years
Total population	2004	1,698,713 head	TSD Manure Management
Total population	2005	1,731,261 head	TSD Manure Management
Total population	2006	1,754,995 head	USDA and CDFA, Various years
Total population	2007	1,840,730 head	USDA and CDFA, Various years
Total population	2008	1,854,657 head	USDA and CDFA, Various years
Total population	2009	1,820,095 head	TSD Manure Management
Total population	2010	1,830,308 head	TSD Manure Management
Total population	2011	1,808,719 head	TSD Manure Management
Total population	2012	1,815,655 head	USDA and CDFA, Various years
Total population	2013	1,769,888 head	USDA and CDFA, Various years
Total population	2014	1,785,403 head	USDA and CDFA, Various years
Volatile solids production rate	2000	2,574 kg / year	Wirth, 2015
Volatile solids production rate	2001	2,555 kg / year	Wirth, 2015
Volatile solids production rate	2002	2,582 kg / year	Wirth, 2015
Volatile solids production rate	2003	2,561 kg / year	Wirth, 2015
Volatile solids production rate	2004	2,487 kg / year	Wirth, 2015
Volatile solids production rate	2005	2,505 kg / year	Wirth, 2015
Volatile solids production rate	2006	2,534 kg / year	Wirth, 2015
Volatile solids production rate	2007	2,770 kg / year	Wirth, 2015
Volatile solids production rate	2008	2,749 kg / year	Wirth, 2015
Volatile solids production rate	2009	2,724 kg / year	Wirth, 2015
Volatile solids production rate	2010	2,800 kg / year	Wirth, 2015
Volatile solids production rate	2011	2,831 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2012	2,833 kg / year	Wirth, 2015
Volatile solids production rate	2013	2,812 kg / year	Wirth, 2015
Volatile solids production rate	2014	2,857 kg / year	Wirth, 2015
Volatilized fraction	2000	0.24	Wirth, 2015
Volatilized fraction	2001	0.24	Wirth, 2015
Volatilized fraction	2002	0.24	Wirth, 2015
Volatilized fraction	2003	0.24	Wirth, 2015
Volatilized fraction	2004	0.24	Wirth, 2015
Volatilized fraction	2005	0.24	Wirth, 2015
Volatilized fraction	2006	0.24	Wirth, 2015
Volatilized fraction	2007	0.24	Wirth, 2015
Volatilized fraction	2008	0.24	Wirth, 2015
Volatilized fraction	2009	0.24	Wirth, 2015
Volatilized fraction	2010	0.24	Wirth, 2015
Volatilized fraction	2011	0.24	Wirth, 2015
Volatilized fraction	2012	0.24	Wirth, 2015
Volatilized fraction	2013	0.24	Wirth, 2015
Volatilized fraction	2014	0.24	Wirth, 2015

Activity = Livestock population - Dairy cows - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy cows	2000	314,837 head	Calculation, see text
Livestock population - Dairy cows	2001	313,788 head	Calculation, see text
Livestock population - Dairy cows	2002	328,197 head	Calculation, see text
Livestock population - Dairy cows	2003	332,297 head	Calculation, see text
Livestock population - Dairy cows	2004	333,582 head	Calculation, see text
Livestock population - Dairy cows	2005	332,695 head	Calculation, see text
Livestock population - Dairy cows	2006	355,697 head	Calculation, see text
Livestock population - Dairy cows	2007	361,689 head	Calculation, see text
Livestock population - Dairy cows	2008	365,918 head	Calculation, see text
Livestock population - Dairy cows	2009	367,654 head	Calculation, see text
Livestock population - Dairy cows	2010	369,603 head	Calculation, see text
Livestock population - Dairy cows	2011	365,244 head	Calculation, see text
Livestock population - Dairy cows	2012	366,644 head	Calculation, see text
Livestock population - Dairy cows	2013	357,402 head	Calculation, see text
Livestock population - Dairy cows	2014	360,535 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.24 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2005	0.24 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.24 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.24 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.24 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.24 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.24 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.24 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.24 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.24 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.24 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.306	Wirth, 2015
Methane conversion factor	2001	0.329	Wirth, 2015
Methane conversion factor	2002	0.314	Wirth, 2015
Methane conversion factor	2003	0.327	Wirth, 2015
Methane conversion factor	2004	0.312	Wirth, 2015
Methane conversion factor	2005	0.307	Wirth, 2015
Methane conversion factor	2006	0.317	Wirth, 2015
Methane conversion factor	2007	0.316	Wirth, 2015
Methane conversion factor	2008	0.325	Wirth, 2015
Methane conversion factor	2009	0.316	Wirth, 2015
Methane conversion factor	2010	0.291	Wirth, 2015
Methane conversion factor	2011	0.293	Wirth, 2015
Methane conversion factor	2012	0.325	Wirth, 2015
Methane conversion factor	2013	0.323	Wirth, 2015
Methane conversion factor	2014	0.323	Wirth, 2015
Nitrogen excretion rate	2000	164,961 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	163,859 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	165,208 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	164,181 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	158,128 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	159,037 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	160,447 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	160,062 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	154,033 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	152,928 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	156,216 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	157,543 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	157,605 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	156,707 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	158,656 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.209	Wirth, 2015
Proportion in manure management system	2001	0.205	Wirth, 2015
Proportion in manure management system	2002	0.2	Wirth, 2015
Proportion in manure management system	2003	0.197	Wirth, 2015
Proportion in manure management system	2004	0.196	Wirth, 2015
Proportion in manure management system	2005	0.192	Wirth, 2015
Proportion in manure management system	2006	0.203	Wirth, 2015
Proportion in manure management system	2007	0.196	Wirth, 2015
Proportion in manure management system	2008	0.197	Wirth, 2015
Proportion in manure management system	2009	0.202	Wirth, 2015
Proportion in manure management system	2010	0.202	Wirth, 2015
Proportion in manure management system	2011	0.202	Wirth, 2015
Proportion in manure management system	2012	0.202	Wirth, 2015
Proportion in manure management system	2013	0.202	Wirth, 2015
Proportion in manure management system	2014	0.202	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	1,505,301 head	TSD Manure Management
Total population	2001	1,531,790 head	TSD Manure Management
Total population	2002	1,644,692 head	TSD Manure Management
Total population	2003	1,687,010 head	TSD Manure Management
Total population	2004	1,698,713 head	TSD Manure Management
Total population	2005	1,731,261 head	USDA and CDFA, Various years
Total population	2006	1,754,995 head	TSD Manure Management
Total population	2007	1,840,730 head	TSD Manure Management
Total population	2008	1,854,657 head	USDA and CDFA, Various years
Total population	2009	1,820,095 head	USDA and CDFA, Various years
Total population	2010	1,830,308 head	USDA and CDFA, Various years

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2011	1,808,719 head	TSD Manure Management
Total population	2012	1,815,655 head	TSD Manure Management
Total population	2013	1,769,888 head	USDA and CDFA, Various years
Total population	2014	1,785,403 head	USDA and CDFA, Various years
Volatile solids production rate	2000	2,574 kg / year	Wirth, 2015
Volatile solids production rate	2001	2,555 kg / year	Wirth, 2015
Volatile solids production rate	2002	2,582 kg / year	Wirth, 2015
Volatile solids production rate	2003	2,561 kg / year	Wirth, 2015
Volatile solids production rate	2004	2,487 kg / year	Wirth, 2015
Volatile solids production rate	2005	2,505 kg / year	Wirth, 2015
Volatile solids production rate	2006	2,534 kg / year	Wirth, 2015
Volatile solids production rate	2007	2,770 kg / year	Wirth, 2015
Volatile solids production rate	2008	2,749 kg / year	Wirth, 2015
Volatile solids production rate	2009	2,724 kg / year	Wirth, 2015
Volatile solids production rate	2010	2,800 kg / year	Wirth, 2015
Volatile solids production rate	2011	2,831 kg / year	Wirth, 2015
Volatile solids production rate	2012	2,833 kg / year	Wirth, 2015
Volatile solids production rate	2013	2,812 kg / year	Wirth, 2015
Volatile solids production rate	2014	2,857 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015

Activity = Livestock population - Dairy cows - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy cows	2000	15,376 head	Calculation, see text
Livestock population - Dairy cows	2001	14,910 head	Calculation, see text
Livestock population - Dairy cows	2002	15,217 head	Calculation, see text
Livestock population - Dairy cows	2003	14,752 head	Calculation, see text
Livestock population - Dairy cows	2004	13,991 head	Calculation, see text
Livestock population - Dairy cows	2005	13,380 head	Calculation, see text
Livestock population - Dairy cows	2006	12,672 head	Calculation, see text
Livestock population - Dairy cows	2007	12,356 head	Calculation, see text
Livestock population - Dairy cows	2008	12,449 head	Calculation, see text
Livestock population - Dairy cows	2009	12,217 head	Calculation, see text
Livestock population - Dairy cows	2010	12,286 head	Calculation, see text
Livestock population - Dairy cows	2011	12,141 head	Calculation, see text
Livestock population - Dairy cows	2012	12,188 head	Calculation, see text
Livestock population - Dairy cows	2013	11,880 head	Calculation, see text
Livestock population - Dairy cows	2014	11,984 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.24 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	164,961 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	163,859 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	165,208 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	164,181 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	158,128 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	159,037 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	160,447 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	160,062 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	154,033 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	152,928 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	156,216 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	157,543 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	157,605 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	156,707 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	158,656 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2000	0.0102	Wirth, 2015
Proportion in manure management system	2001	9.733E-03	Wirth, 2015
Proportion in manure management system	2002	9.252E-03	Wirth, 2015
Proportion in manure management system	2003	8.744E-03	Wirth, 2015
Proportion in manure management system	2004	8.236E-03	Wirth, 2015
Proportion in manure management system	2005	7.728E-03	Wirth, 2015
Proportion in manure management system	2006	7.220E-03	Wirth, 2015
Proportion in manure management system	2007	6.712E-03	Wirth, 2015
Proportion in manure management system	2008	6.712E-03	Wirth, 2015
Proportion in manure management system	2009	6.712E-03	Wirth, 2015
Proportion in manure management system	2010	6.712E-03	Wirth, 2015
Proportion in manure management system	2011	6.712E-03	Wirth, 2015
Proportion in manure management system	2012	6.712E-03	Wirth, 2015
Proportion in manure management system	2013	6.712E-03	Wirth, 2015
Proportion in manure management system	2014	6.712E-03	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	1,505,301 head	USDA and CDFA, Various years
Total population	2001	1,531,790 head	TSD Manure Management
Total population	2002	1,644,692 head	USDA and CDFA, Various years
Total population	2003	1,687,010 head	USDA and CDFA, Various years
Total population	2004	1,698,713 head	TSD Manure Management
Total population	2005	1,731,261 head	USDA and CDFA, Various years
Total population	2006	1,754,995 head	USDA and CDFA, Various years
Total population	2007	1,840,730 head	TSD Manure Management
Total population	2008	1,854,657 head	USDA and CDFA, Various years
Total population	2009	1,820,095 head	USDA and CDFA, Various years
Total population	2010	1,830,308 head	USDA and CDFA, Various years
Total population	2011	1,808,719 head	TSD Manure Management
Total population	2012	1,815,655 head	TSD Manure Management
Total population	2013	1,769,888 head	USDA and CDFA, Various years
Total population	2014	1,785,403 head	USDA and CDFA, Various years
Volatile solids production rate	2000	2,574 kg / year	Wirth, 2015
Volatile solids production rate	2001	2,555 kg / year	Wirth, 2015
Volatile solids production rate	2002	2,582 kg / year	Wirth, 2015
Volatile solids production rate	2003	2,561 kg / year	Wirth, 2015
Volatile solids production rate	2004	2,487 kg / year	Wirth, 2015
Volatile solids production rate	2005	2,505 kg / year	Wirth, 2015
Volatile solids production rate	2006	2,534 kg / year	Wirth, 2015
Volatile solids production rate	2007	2,770 kg / year	Wirth, 2015
Volatile solids production rate	2008	2,749 kg / year	Wirth, 2015
Volatile solids production rate	2009	2,724 kg / year	Wirth, 2015
Volatile solids production rate	2010	2,800 kg / year	Wirth, 2015
Volatile solids production rate	2011	2,831 kg / year	Wirth, 2015
Volatile solids production rate	2012	2,833 kg / year	Wirth, 2015
Volatile solids production rate	2013	2,812 kg / year	Wirth, 2015
Volatile solids production rate	2014	2,857 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

Activity = Livestock population - Dairy cows - Solid storage

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy cows	2000	137,968 head	Calculation, see text
Livestock population - Dairy cows	2001	140,990 head	Calculation, see text
Livestock population - Dairy cows	2002	152,021 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Dairy cows	2003	155,453 head	Calculation, see text
Livestock population - Dairy cows	2004	156,049 head	Calculation, see text
Livestock population - Dairy cows	2005	158,548 head	Calculation, see text
Livestock population - Dairy cows	2006	160,223 head	Calculation, see text
Livestock population - Dairy cows	2007	167,528 head	Calculation, see text
Livestock population - Dairy cows	2008	168,795 head	Calculation, see text
Livestock population - Dairy cows	2009	165,650 head	Calculation, see text
Livestock population - Dairy cows	2010	166,579 head	Calculation, see text
Livestock population - Dairy cows	2011	164,615 head	Calculation, see text
Livestock population - Dairy cows	2012	165,246 head	Calculation, see text
Livestock population - Dairy cows	2013	161,081 head	Calculation, see text
Livestock population - Dairy cows	2014	162,493 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.24 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.24 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.04	Wirth, 2015
Methane conversion factor	2001	0.04	Wirth, 2015
Methane conversion factor	2002	0.04	Wirth, 2015
Methane conversion factor	2003	0.04	Wirth, 2015
Methane conversion factor	2004	0.04	Wirth, 2015
Methane conversion factor	2005	0.04	Wirth, 2015
Methane conversion factor	2006	0.04	Wirth, 2015
Methane conversion factor	2007	0.04	Wirth, 2015
Methane conversion factor	2008	0.04	Wirth, 2015
Methane conversion factor	2009	0.04	Wirth, 2015
Methane conversion factor	2010	0.04	Wirth, 2015
Methane conversion factor	2011	0.04	Wirth, 2015
Methane conversion factor	2012	0.04	Wirth, 2015
Methane conversion factor	2013	0.04	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2014	0.04	Wirth, 2015
Nitrogen excretion rate	2000	164,961 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	163,859 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	165,208 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	164,181 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	158,128 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	159,037 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	160,447 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	160,062 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	154,033 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	152,928 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	156,216 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	157,543 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	157,605 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	156,707 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	158,656 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0917	Wirth, 2015
Proportion in manure management system	2001	0.092	Wirth, 2015
Proportion in manure management system	2002	0.0924	Wirth, 2015
Proportion in manure management system	2003	0.0921	Wirth, 2015
Proportion in manure management system	2004	0.0919	Wirth, 2015
Proportion in manure management system	2005	0.0916	Wirth, 2015
Proportion in manure management system	2006	0.0913	Wirth, 2015
Proportion in manure management system	2007	0.091	Wirth, 2015
Proportion in manure management system	2008	0.091	Wirth, 2015
Proportion in manure management system	2009	0.091	Wirth, 2015
Proportion in manure management system	2010	0.091	Wirth, 2015
Proportion in manure management system	2011	0.091	Wirth, 2015
Proportion in manure management system	2012	0.091	Wirth, 2015
Proportion in manure management system	2013	0.091	Wirth, 2015
Proportion in manure management system	2014	0.091	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	1,505,301 head	TSD Manure Management
Total population	2001	1,531,790 head	TSD Manure Management
Total population	2002	1,644,692 head	TSD Manure Management
Total population	2003	1,687,010 head	TSD Manure Management
Total population	2004	1,698,713 head	TSD Manure Management
Total population	2005	1,731,261 head	USDA and CDFA, Various years
Total population	2006	1,754,995 head	TSD Manure Management
Total population	2007	1,840,730 head	TSD Manure Management
Total population	2008	1,854,657 head	TSD Manure Management
Total population	2009	1,820,095 head	TSD Manure Management
Total population	2010	1,830,308 head	TSD Manure Management
Total population	2011	1,808,719 head	TSD Manure Management
Total population	2012	1,815,655 head	TSD Manure Management
Total population	2013	1,769,888 head	USDA and CDFA, Various years
Total population	2014	1,785,403 head	TSD Manure Management
Volatile solids production rate	2000	2,574 kg / year	Wirth, 2015
Volatile solids production rate	2001	2,555 kg / year	Wirth, 2015
Volatile solids production rate	2002	2,582 kg / year	Wirth, 2015
Volatile solids production rate	2003	2,561 kg / year	Wirth, 2015
Volatile solids production rate	2004	2,487 kg / year	Wirth, 2015
Volatile solids production rate	2005	2,505 kg / year	Wirth, 2015
Volatile solids production rate	2006	2,534 kg / year	Wirth, 2015
Volatile solids production rate	2007	2,770 kg / year	Wirth, 2015
Volatile solids production rate	2008	2,749 kg / year	Wirth, 2015
Volatile solids production rate	2009	2,724 kg / year	Wirth, 2015
Volatile solids production rate	2010	2,800 kg / year	Wirth, 2015
Volatile solids production rate	2011	2,831 kg / year	Wirth, 2015
Volatile solids production rate	2012	2,833 kg / year	Wirth, 2015
Volatile solids production rate	2013	2,812 kg / year	Wirth, 2015
Volatile solids production rate	2014	2,857 kg / year	Wirth, 2015
Volatilized fraction	2000	0.27	Wirth, 2015
Volatilized fraction	2001	0.27	Wirth, 2015
Volatilized fraction	2002	0.27	Wirth, 2015
Volatilized fraction	2003	0.27	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2004	0.27	Wirth, 2015
Volatilized fraction	2005	0.27	Wirth, 2015
Volatilized fraction	2006	0.27	Wirth, 2015
Volatilized fraction	2007	0.27	Wirth, 2015
Volatilized fraction	2008	0.27	Wirth, 2015
Volatilized fraction	2009	0.27	Wirth, 2015
Volatilized fraction	2010	0.27	Wirth, 2015
Volatilized fraction	2011	0.27	Wirth, 2015
Volatilized fraction	2012	0.27	Wirth, 2015
Volatilized fraction	2013	0.27	Wirth, 2015
Volatilized fraction	2014	0.27	Wirth, 2015

Activity = Livestock population - Dairy heifers - Daily spread

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy heifers	2000	78,621 head	Calculation, see text
Livestock population - Dairy heifers	2001	81,124 head	Calculation, see text
Livestock population - Dairy heifers	2002	83,274 head	Calculation, see text
Livestock population - Dairy heifers	2003	84,492 head	Calculation, see text
Livestock population - Dairy heifers	2004	79,156 head	Calculation, see text
Livestock population - Dairy heifers	2005	82,990 head	Calculation, see text
Livestock population - Dairy heifers	2006	85,249 head	Calculation, see text
Livestock population - Dairy heifers	2007	85,689 head	Calculation, see text
Livestock population - Dairy heifers	2008	86,138 head	Calculation, see text
Livestock population - Dairy heifers	2009	84,777 head	Calculation, see text
Livestock population - Dairy heifers	2010	81,991 head	Calculation, see text
Livestock population - Dairy heifers	2011	82,098 head	Calculation, see text
Livestock population - Dairy heifers	2012	90,010 head	Calculation, see text
Livestock population - Dairy heifers	2013	83,880 head	Calculation, see text
Livestock population - Dairy heifers	2014	80,970 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2012	0.17 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	5.000E-03	Wirth, 2015
Methane conversion factor	2001	5.000E-03	Wirth, 2015
Methane conversion factor	2002	5.000E-03	Wirth, 2015
Methane conversion factor	2003	5.000E-03	Wirth, 2015
Methane conversion factor	2004	5.000E-03	Wirth, 2015
Methane conversion factor	2005	5.000E-03	Wirth, 2015
Methane conversion factor	2006	5.000E-03	Wirth, 2015
Methane conversion factor	2007	5.000E-03	Wirth, 2015
Methane conversion factor	2008	5.000E-03	Wirth, 2015
Methane conversion factor	2009	5.000E-03	Wirth, 2015
Methane conversion factor	2010	5.000E-03	Wirth, 2015
Methane conversion factor	2011	5.000E-03	Wirth, 2015
Methane conversion factor	2012	5.000E-03	Wirth, 2015
Methane conversion factor	2013	5.000E-03	Wirth, 2015
Methane conversion factor	2014	5.000E-03	Wirth, 2015
Nitrogen excretion rate	2000	75,184 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	75,160 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	75,085 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	75,284 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	72,069 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	71,953 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	72,146 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	71,268 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	68,965 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	68,811 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	68,929 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	68,911 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	69,046 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	68,986 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	68,911 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.109	Wirth, 2015
Proportion in manure management system	2001	0.108	Wirth, 2015
Proportion in manure management system	2002	0.108	Wirth, 2015
Proportion in manure management system	2003	0.108	Wirth, 2015
Proportion in manure management system	2004	0.108	Wirth, 2015
Proportion in manure management system	2005	0.108	Wirth, 2015
Proportion in manure management system	2006	0.108	Wirth, 2015
Proportion in manure management system	2007	0.108	Wirth, 2015
Proportion in manure management system	2008	0.108	Wirth, 2015
Proportion in manure management system	2009	0.108	Wirth, 2015
Proportion in manure management system	2010	0.108	Wirth, 2015
Proportion in manure management system	2011	0.108	Wirth, 2015
Proportion in manure management system	2012	0.108	Wirth, 2015
Proportion in manure management system	2013	0.108	Wirth, 2015
Proportion in manure management system	2014	0.108	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	721,527 head	Wirth, 2015
Total population	2001	747,748 head	Wirth, 2015
Total population	2002	770,917 head	Wirth, 2015
Total population	2003	782,191 head	Wirth, 2015
Total population	2004	732,800 head	Wirth, 2015
Total population	2005	768,290 head	Wirth, 2015
Total population	2006	789,199 head	Wirth, 2015
Total population	2007	793,274 head	Wirth, 2015
Total population	2008	797,435 head	Wirth, 2015
Total population	2009	784,837 head	Wirth, 2015
Total population	2010	759,040 head	Wirth, 2015
Total population	2011	760,032 head	Wirth, 2015
Total population	2012	833,273 head	Wirth, 2015
Total population	2013	776,524 head	Wirth, 2015
Total population	2014	749,587 head	Wirth, 2015
Volatile solids production rate	2000	1,209 kg / year	Wirth, 2015
Volatile solids production rate	2001	1,209 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2002	1,208 kg / year	Wirth, 2015
Volatile solids production rate	2003	1,210 kg / year	Wirth, 2015
Volatile solids production rate	2004	1,164 kg / year	Wirth, 2015
Volatile solids production rate	2005	1,162 kg / year	Wirth, 2015
Volatile solids production rate	2006	1,165 kg / year	Wirth, 2015
Volatile solids production rate	2007	1,258 kg / year	Wirth, 2015
Volatile solids production rate	2008	1,253 kg / year	Wirth, 2015
Volatile solids production rate	2009	1,251 kg / year	Wirth, 2015
Volatile solids production rate	2010	1,253 kg / year	Wirth, 2015
Volatile solids production rate	2011	1,252 kg / year	Wirth, 2015
Volatile solids production rate	2012	1,255 kg / year	Wirth, 2015
Volatile solids production rate	2013	1,254 kg / year	Wirth, 2015
Volatile solids production rate	2014	1,252 kg / year	Wirth, 2015
Volatilized fraction	2000	0.1	Wirth, 2015
Volatilized fraction	2001	0.1	Wirth, 2015
Volatilized fraction	2002	0.1	Wirth, 2015
Volatilized fraction	2003	0.1	Wirth, 2015
Volatilized fraction	2004	0.1	Wirth, 2015
Volatilized fraction	2005	0.1	Wirth, 2015
Volatilized fraction	2006	0.1	Wirth, 2015
Volatilized fraction	2007	0.1	Wirth, 2015
Volatilized fraction	2008	0.1	Wirth, 2015
Volatilized fraction	2009	0.1	Wirth, 2015
Volatilized fraction	2010	0.1	Wirth, 2015
Volatilized fraction	2011	0.1	Wirth, 2015
Volatilized fraction	2012	0.1	Wirth, 2015
Volatilized fraction	2013	0.1	Wirth, 2015
Volatilized fraction	2014	0.1	Wirth, 2015

Activity = Livestock population - Dairy heifers - Dry lot

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy heifers	2000	629,244 head	Calculation, see text
Livestock population - Dairy heifers	2001	652,817 head	Calculation, see text
Livestock population - Dairy heifers	2002	673,772 head	Calculation, see text
Livestock population - Dairy heifers	2003	683,626 head	Calculation, see text
Livestock population - Dairy heifers	2004	640,459 head	Calculation, see text
Livestock population - Dairy heifers	2005	671,477 head	Calculation, see text
Livestock population - Dairy heifers	2006	689,751 head	Calculation, see text
Livestock population - Dairy heifers	2007	693,312 head	Calculation, see text
Livestock population - Dairy heifers	2008	696,949 head	Calculation, see text
Livestock population - Dairy heifers	2009	685,938 head	Calculation, see text
Livestock population - Dairy heifers	2010	663,392 head	Calculation, see text
Livestock population - Dairy heifers	2011	664,260 head	Calculation, see text
Livestock population - Dairy heifers	2012	728,271 head	Calculation, see text
Livestock population - Dairy heifers	2013	678,673 head	Calculation, see text
Livestock population - Dairy heifers	2014	655,130 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0.02 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2010	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0.02 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	75,184 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	75,160 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	75,085 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	75,284 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	72,069 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	71,953 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	72,146 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	71,268 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	68,965 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	68,811 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	68,929 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	68,911 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	69,046 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	68,986 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	68,911 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.872	Wirth, 2015
Proportion in manure management system	2001	0.873	Wirth, 2015
Proportion in manure management system	2002	0.874	Wirth, 2015
Proportion in manure management system	2003	0.874	Wirth, 2015
Proportion in manure management system	2004	0.874	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2005	0.874	Wirth, 2015
Proportion in manure management system	2006	0.874	Wirth, 2015
Proportion in manure management system	2007	0.874	Wirth, 2015
Proportion in manure management system	2008	0.874	Wirth, 2015
Proportion in manure management system	2009	0.874	Wirth, 2015
Proportion in manure management system	2010	0.874	Wirth, 2015
Proportion in manure management system	2011	0.874	Wirth, 2015
Proportion in manure management system	2012	0.874	Wirth, 2015
Proportion in manure management system	2013	0.874	Wirth, 2015
Proportion in manure management system	2014	0.874	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0.02	Wirth, 2015
Runoff fraction	2001	0.02	Wirth, 2015
Runoff fraction	2002	0.02	Wirth, 2015
Runoff fraction	2003	0.02	Wirth, 2015
Runoff fraction	2004	0.02	Wirth, 2015
Runoff fraction	2005	0.02	Wirth, 2015
Runoff fraction	2006	0.02	Wirth, 2015
Runoff fraction	2007	0.02	Wirth, 2015
Runoff fraction	2008	0.02	Wirth, 2015
Runoff fraction	2009	0.02	Wirth, 2015
Runoff fraction	2010	0.02	Wirth, 2015
Runoff fraction	2011	0.02	Wirth, 2015
Runoff fraction	2012	0.02	Wirth, 2015
Runoff fraction	2013	0.02	Wirth, 2015
Runoff fraction	2014	0.02	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2000	721,527 head	Wirth, 2015
Total population	2001	747,748 head	Wirth, 2015
Total population	2002	770,917 head	Wirth, 2015
Total population	2003	782,191 head	Wirth, 2015
Total population	2004	732,800 head	Wirth, 2015
Total population	2005	768,290 head	Wirth, 2015
Total population	2006	789,199 head	Wirth, 2015
Total population	2007	793,274 head	Wirth, 2015
Total population	2008	797,435 head	Wirth, 2015
Total population	2009	784,837 head	Wirth, 2015
Total population	2010	759,040 head	Wirth, 2015
Total population	2011	760,032 head	Wirth, 2015
Total population	2012	833,273 head	Wirth, 2015
Total population	2013	776,524 head	Wirth, 2015
Total population	2014	749,587 head	Wirth, 2015
Volatile solids production rate	2000	1,209 kg / year	Wirth, 2015
Volatile solids production rate	2001	1,209 kg / year	Wirth, 2015
Volatile solids production rate	2002	1,208 kg / year	Wirth, 2015
Volatile solids production rate	2003	1,210 kg / year	Wirth, 2015
Volatile solids production rate	2004	1,164 kg / year	Wirth, 2015
Volatile solids production rate	2005	1,162 kg / year	Wirth, 2015
Volatile solids production rate	2006	1,165 kg / year	Wirth, 2015
Volatile solids production rate	2007	1,258 kg / year	Wirth, 2015
Volatile solids production rate	2008	1,253 kg / year	Wirth, 2015
Volatile solids production rate	2009	1,251 kg / year	Wirth, 2015
Volatile solids production rate	2010	1,253 kg / year	Wirth, 2015
Volatile solids production rate	2011	1,252 kg / year	Wirth, 2015
Volatile solids production rate	2012	1,255 kg / year	Wirth, 2015
Volatile solids production rate	2013	1,254 kg / year	Wirth, 2015
Volatile solids production rate	2014	1,252 kg / year	Wirth, 2015
Volatilized fraction	2000	0.15	Wirth, 2015
Volatilized fraction	2001	0.15	Wirth, 2015
Volatilized fraction	2002	0.15	Wirth, 2015
Volatilized fraction	2003	0.15	Wirth, 2015
Volatilized fraction	2004	0.15	Wirth, 2015
Volatilized fraction	2005	0.15	Wirth, 2015
Volatilized fraction	2006	0.15	Wirth, 2015
Volatilized fraction	2007	0.15	Wirth, 2015
Volatilized fraction	2008	0.15	Wirth, 2015
Volatilized fraction	2009	0.15	Wirth, 2015
Volatilized fraction	2010	0.15	Wirth, 2015
Volatilized fraction	2011	0.15	Wirth, 2015
Volatilized fraction	2012	0.15	Wirth, 2015
Volatilized fraction	2013	0.15	Wirth, 2015
Volatilized fraction	2014	0.15	Wirth, 2015

Activity = Livestock population - Dairy heifers - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy heifers	2000	6,292 head	Calculation, see text
Livestock population - Dairy heifers	2001	6,528 head	Calculation, see text
Livestock population - Dairy heifers	2002	6,738 head	Calculation, see text
Livestock population - Dairy heifers	2003	6,836 head	Calculation, see text
Livestock population - Dairy heifers	2004	6,405 head	Calculation, see text
Livestock population - Dairy heifers	2005	6,715 head	Calculation, see text
Livestock population - Dairy heifers	2006	6,898 head	Calculation, see text
Livestock population - Dairy heifers	2007	6,933 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Dairy heifers	2008	6,969 head	Calculation, see text
Livestock population - Dairy heifers	2009	6,859 head	Calculation, see text
Livestock population - Dairy heifers	2010	6,634 head	Calculation, see text
Livestock population - Dairy heifers	2011	6,643 head	Calculation, see text
Livestock population - Dairy heifers	2012	7,283 head	Calculation, see text
Livestock population - Dairy heifers	2013	6,787 head	Calculation, see text
Livestock population - Dairy heifers	2014	6,551 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.306	Wirth, 2015
Methane conversion factor	2001	0.329	Wirth, 2015
Methane conversion factor	2002	0.314	Wirth, 2015
Methane conversion factor	2003	0.327	Wirth, 2015
Methane conversion factor	2004	0.312	Wirth, 2015
Methane conversion factor	2005	0.307	Wirth, 2015
Methane conversion factor	2006	0.317	Wirth, 2015
Methane conversion factor	2007	0.316	Wirth, 2015
Methane conversion factor	2008	0.325	Wirth, 2015
Methane conversion factor	2009	0.316	Wirth, 2015
Methane conversion factor	2010	0.291	Wirth, 2015
Methane conversion factor	2011	0.293	Wirth, 2015
Methane conversion factor	2012	0.325	Wirth, 2015
Methane conversion factor	2013	0.323	Wirth, 2015
Methane conversion factor	2014	0.323	Wirth, 2015
Nitrogen excretion rate	2000	75,184 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	75,160 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	75,085 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2003	75,284 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	72,069 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	71,953 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	72,146 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	71,268 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	68,965 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	68,811 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	68,929 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	68,911 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	69,046 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	68,986 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	68,911 g / year	USEPA, 2013d
Proportion in manure management system	2000	8.721E-03	Wirth, 2015
Proportion in manure management system	2001	8.730E-03	Wirth, 2015
Proportion in manure management system	2002	8.740E-03	Wirth, 2015
Proportion in manure management system	2003	8.740E-03	Wirth, 2015
Proportion in manure management system	2004	8.740E-03	Wirth, 2015
Proportion in manure management system	2005	8.740E-03	Wirth, 2015
Proportion in manure management system	2006	8.740E-03	Wirth, 2015
Proportion in manure management system	2007	8.740E-03	Wirth, 2015
Proportion in manure management system	2008	8.740E-03	Wirth, 2015
Proportion in manure management system	2009	8.740E-03	Wirth, 2015
Proportion in manure management system	2010	8.740E-03	Wirth, 2015
Proportion in manure management system	2011	8.740E-03	Wirth, 2015
Proportion in manure management system	2012	8.740E-03	Wirth, 2015
Proportion in manure management system	2013	8.740E-03	Wirth, 2015
Proportion in manure management system	2014	8.740E-03	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	721,527 head	Wirth, 2015
Total population	2001	747,748 head	Wirth, 2015
Total population	2002	770,917 head	Wirth, 2015
Total population	2003	782,191 head	Wirth, 2015
Total population	2004	732,800 head	Wirth, 2015
Total population	2005	768,290 head	Wirth, 2015
Total population	2006	789,199 head	Wirth, 2015
Total population	2007	793,274 head	Wirth, 2015
Total population	2008	797,435 head	Wirth, 2015
Total population	2009	784,837 head	Wirth, 2015
Total population	2010	759,040 head	Wirth, 2015
Total population	2011	760,032 head	Wirth, 2015
Total population	2012	833,273 head	Wirth, 2015
Total population	2013	776,524 head	Wirth, 2015
Total population	2014	749,587 head	Wirth, 2015
Volatile solids production rate	2000	1,209 kg / year	Wirth, 2015
Volatile solids production rate	2001	1,209 kg / year	Wirth, 2015
Volatile solids production rate	2002	1,208 kg / year	Wirth, 2015
Volatile solids production rate	2003	1,210 kg / year	Wirth, 2015
Volatile solids production rate	2004	1,164 kg / year	Wirth, 2015
Volatile solids production rate	2005	1,162 kg / year	Wirth, 2015
Volatile solids production rate	2006	1,165 kg / year	Wirth, 2015
Volatile solids production rate	2007	1,258 kg / year	Wirth, 2015
Volatile solids production rate	2008	1,253 kg / year	Wirth, 2015
Volatile solids production rate	2009	1,251 kg / year	Wirth, 2015
Volatile solids production rate	2010	1,253 kg / year	Wirth, 2015
Volatile solids production rate	2011	1,252 kg / year	Wirth, 2015
Volatile solids production rate	2012	1,255 kg / year	Wirth, 2015
Volatile solids production rate	2013	1,254 kg / year	Wirth, 2015
Volatile solids production rate	2014	1,252 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015
Activity = Livestock population - Dairy heifers - Pasture			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Dairy heifers	2000	7,370 head	Calculation, see text
Livestock population - Dairy heifers	2001	7,278 head	Calculation, see text
Livestock population - Dairy heifers	2002	7,133 head	Calculation, see text
Livestock population - Dairy heifers	2003	7,237 head	Calculation, see text
Livestock population - Dairy heifers	2004	6,780 head	Calculation, see text
Livestock population - Dairy heifers	2005	7,108 head	Calculation, see text
Livestock population - Dairy heifers	2006	7,302 head	Calculation, see text
Livestock population - Dairy heifers	2007	7,340 head	Calculation, see text
Livestock population - Dairy heifers	2008	7,378 head	Calculation, see text
Livestock population - Dairy heifers	2009	7,262 head	Calculation, see text
Livestock population - Dairy heifers	2010	7,023 head	Calculation, see text
Livestock population - Dairy heifers	2011	7,032 head	Calculation, see text
Livestock population - Dairy heifers	2012	7,710 head	Calculation, see text
Livestock population - Dairy heifers	2013	7,185 head	Calculation, see text
Livestock population - Dairy heifers	2014	6,935 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	75,184 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	75,160 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	75,085 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	75,284 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	72,069 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	71,953 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	72,146 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	71,268 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	68,965 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	68,811 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	68,929 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	68,911 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	69,046 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	68,986 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	68,911 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0102	Wirth, 2015
Proportion in manure management system	2001	9.733E-03	Wirth, 2015
Proportion in manure management system	2002	9.252E-03	Wirth, 2015
Proportion in manure management system	2003	9.252E-03	Wirth, 2015
Proportion in manure management system	2004	9.252E-03	Wirth, 2015
Proportion in manure management system	2005	9.252E-03	Wirth, 2015
Proportion in manure management system	2006	9.252E-03	Wirth, 2015
Proportion in manure management system	2007	9.252E-03	Wirth, 2015
Proportion in manure management system	2008	9.252E-03	Wirth, 2015
Proportion in manure management system	2009	9.252E-03	Wirth, 2015
Proportion in manure management system	2010	9.252E-03	Wirth, 2015
Proportion in manure management system	2011	9.252E-03	Wirth, 2015
Proportion in manure management system	2012	9.252E-03	Wirth, 2015
Proportion in manure management system	2013	9.252E-03	Wirth, 2015
Proportion in manure management system	2014	9.252E-03	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	721,527 head	Wirth, 2015
Total population	2001	747,748 head	Wirth, 2015
Total population	2002	770,917 head	Wirth, 2015
Total population	2003	782,191 head	Wirth, 2015
Total population	2004	732,800 head	Wirth, 2015
Total population	2005	768,290 head	Wirth, 2015
Total population	2006	789,199 head	Wirth, 2015
Total population	2007	793,274 head	Wirth, 2015
Total population	2008	797,435 head	Wirth, 2015
Total population	2009	784,837 head	Wirth, 2015
Total population	2010	759,040 head	Wirth, 2015
Total population	2011	760,032 head	Wirth, 2015
Total population	2012	833,273 head	Wirth, 2015
Total population	2013	776,524 head	Wirth, 2015
Total population	2014	749,587 head	Wirth, 2015
Volatile solids production rate	2000	1,209 kg / year	Wirth, 2015
Volatile solids production rate	2001	1,209 kg / year	Wirth, 2015
Volatile solids production rate	2002	1,208 kg / year	Wirth, 2015
Volatile solids production rate	2003	1,210 kg / year	Wirth, 2015
Volatile solids production rate	2004	1,164 kg / year	Wirth, 2015
Volatile solids production rate	2005	1,162 kg / year	Wirth, 2015
Volatile solids production rate	2006	1,165 kg / year	Wirth, 2015
Volatile solids production rate	2007	1,258 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2008	1,253 kg / year	Wirth, 2015
Volatile solids production rate	2009	1,251 kg / year	Wirth, 2015
Volatile solids production rate	2010	1,253 kg / year	Wirth, 2015
Volatile solids production rate	2011	1,252 kg / year	Wirth, 2015
Volatile solids production rate	2012	1,255 kg / year	Wirth, 2015
Volatile solids production rate	2013	1,254 kg / year	Wirth, 2015
Volatile solids production rate	2014	1,252 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

IPCC category = 3A2aii — Livestock - Manure Management - Cattle - Other Cattle

Activity = Livestock population - Feedlot - heifers 500+ lbs - Dry lot

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Feedlot - heifers 500+ lbs	2000	137,356 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2001	140,522 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2002	151,627 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2003	170,081 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2004	164,271 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2005	170,530 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2006	181,316 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2007	175,952 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2008	170,749 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2009	158,485 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2010	155,610 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2011	159,156 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2012	164,130 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2013	160,093 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2014	171,795 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0.02 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2014	0.02 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.33 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	53,482 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	53,536 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	54,280 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	52,882 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	52,464 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	52,955 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	53,071 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	53,077 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	53,598 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	54,152 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	53,551 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	53,210 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	53,902 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	54,688 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	54,722 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.987	Wirth, 2015
Proportion in manure management system	2001	0.987	Wirth, 2015
Proportion in manure management system	2002	0.987	Wirth, 2015
Proportion in manure management system	2003	0.987	Wirth, 2015
Proportion in manure management system	2004	0.987	Wirth, 2015
Proportion in manure management system	2005	0.987	Wirth, 2015
Proportion in manure management system	2006	0.987	Wirth, 2015
Proportion in manure management system	2007	0.987	Wirth, 2015
Proportion in manure management system	2008	0.987	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2009	0.987	Wirth, 2015
Proportion in manure management system	2010	0.987	Wirth, 2015
Proportion in manure management system	2011	0.987	Wirth, 2015
Proportion in manure management system	2012	0.987	Wirth, 2015
Proportion in manure management system	2013	0.987	Wirth, 2015
Proportion in manure management system	2014	0.987	Wirth, 2015
Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0.039	Wirth, 2015
Runoff fraction	2001	0.039	Wirth, 2015
Runoff fraction	2002	0.039	Wirth, 2015
Runoff fraction	2003	0.039	Wirth, 2015
Runoff fraction	2004	0.039	Wirth, 2015
Runoff fraction	2005	0.039	Wirth, 2015
Runoff fraction	2006	0.039	Wirth, 2015
Runoff fraction	2007	0.039	Wirth, 2015
Runoff fraction	2008	0.039	Wirth, 2015
Runoff fraction	2009	0.039	Wirth, 2015
Runoff fraction	2010	0.039	Wirth, 2015
Runoff fraction	2011	0.039	Wirth, 2015
Runoff fraction	2012	0.039	Wirth, 2015
Runoff fraction	2013	0.039	Wirth, 2015
Runoff fraction	2014	0.039	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	139,142 head	Wirth, 2015
Total population	2001	142,349 head	Wirth, 2015
Total population	2002	153,598 head	Wirth, 2015
Total population	2003	172,292 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2004	166,407 head	Wirth, 2015
Total population	2005	172,746 head	Wirth, 2015
Total population	2006	183,673 head	Wirth, 2015
Total population	2007	178,240 head	Wirth, 2015
Total population	2008	172,969 head	Wirth, 2015
Total population	2009	160,545 head	Wirth, 2015
Total population	2010	157,632 head	Wirth, 2015
Total population	2011	161,225 head	Wirth, 2015
Total population	2012	166,263 head	Wirth, 2015
Total population	2013	162,174 head	Wirth, 2015
Total population	2014	174,028 head	Wirth, 2015
Volatile solids production rate	2000	671 kg / year	Wirth, 2015
Volatile solids production rate	2001	679 kg / year	Wirth, 2015
Volatile solids production rate	2002	684 kg / year	Wirth, 2015
Volatile solids production rate	2003	674 kg / year	Wirth, 2015
Volatile solids production rate	2004	668 kg / year	Wirth, 2015
Volatile solids production rate	2005	673 kg / year	Wirth, 2015
Volatile solids production rate	2006	670 kg / year	Wirth, 2015
Volatile solids production rate	2007	672 kg / year	Wirth, 2015
Volatile solids production rate	2008	675 kg / year	Wirth, 2015
Volatile solids production rate	2009	679 kg / year	Wirth, 2015
Volatile solids production rate	2010	676 kg / year	Wirth, 2015
Volatile solids production rate	2011	671 kg / year	Wirth, 2015
Volatile solids production rate	2012	675 kg / year	Wirth, 2015
Volatile solids production rate	2013	681 kg / year	Wirth, 2015
Volatile solids production rate	2014	682 kg / year	Wirth, 2015
Volatilized fraction	2000	0.23	Wirth, 2015
Volatilized fraction	2001	0.23	Wirth, 2015
Volatilized fraction	2002	0.23	Wirth, 2015
Volatilized fraction	2003	0.23	Wirth, 2015
Volatilized fraction	2004	0.23	Wirth, 2015
Volatilized fraction	2005	0.23	Wirth, 2015
Volatilized fraction	2006	0.23	Wirth, 2015
Volatilized fraction	2007	0.23	Wirth, 2015
Volatilized fraction	2008	0.23	Wirth, 2015
Volatilized fraction	2009	0.23	Wirth, 2015
Volatilized fraction	2010	0.23	Wirth, 2015
Volatilized fraction	2011	0.23	Wirth, 2015
Volatilized fraction	2012	0.23	Wirth, 2015
Volatilized fraction	2013	0.23	Wirth, 2015
Volatilized fraction	2014	0.23	Wirth, 2015

Activity = Livestock population - Feedlot - heifers 500+ lbs - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Feedlot - heifers 500+ lbs	2000	1,786 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2001	1,827 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2002	1,971 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2003	2,211 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2004	2,136 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2005	2,217 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2006	2,357 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2007	2,287 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2008	2,220 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2009	2,060 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2010	2,023 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2011	2,069 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

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Livestock population - Feedlot - heifers 500+ lbs	2012	2,134 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2013	2,081 head	Calculation, see text
Livestock population - Feedlot - heifers 500+ lbs	2014	2,233 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.33 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.37	Wirth, 2015
Methane conversion factor	2001	0.396	Wirth, 2015
Methane conversion factor	2002	0.4	Wirth, 2015
Methane conversion factor	2003	0.415	Wirth, 2015
Methane conversion factor	2004	0.39	Wirth, 2015
Methane conversion factor	2005	0.384	Wirth, 2015
Methane conversion factor	2006	0.401	Wirth, 2015
Methane conversion factor	2007	0.417	Wirth, 2015
Methane conversion factor	2008	0.417	Wirth, 2015
Methane conversion factor	2009	0.412	Wirth, 2015
Methane conversion factor	2010	0.384	Wirth, 2015
Methane conversion factor	2011	0.384	Wirth, 2015
Methane conversion factor	2012	0.423	Wirth, 2015
Methane conversion factor	2013	0.415	Wirth, 2015
Methane conversion factor	2014	0.415	Wirth, 2015
Nitrogen excretion rate	2000	53,482 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	53,536 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	54,280 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	52,882 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	52,464 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	52,955 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	53,071 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

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Nitrogen excretion rate	2007	53,077 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	53,598 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	54,152 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	53,551 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	53,210 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	53,902 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	54,688 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	54,722 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0128	Wirth, 2015
Proportion in manure management system	2001	0.0128	Wirth, 2015
Proportion in manure management system	2002	0.0128	Wirth, 2015
Proportion in manure management system	2003	0.0128	Wirth, 2015
Proportion in manure management system	2004	0.0128	Wirth, 2015
Proportion in manure management system	2005	0.0128	Wirth, 2015
Proportion in manure management system	2006	0.0128	Wirth, 2015
Proportion in manure management system	2007	0.0128	Wirth, 2015
Proportion in manure management system	2008	0.0128	Wirth, 2015
Proportion in manure management system	2009	0.0128	Wirth, 2015
Proportion in manure management system	2010	0.0128	Wirth, 2015
Proportion in manure management system	2011	0.0128	Wirth, 2015
Proportion in manure management system	2012	0.0128	Wirth, 2015
Proportion in manure management system	2013	0.0128	Wirth, 2015
Proportion in manure management system	2014	0.0128	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	139,142 head	Wirth, 2015
Total population	2001	142,349 head	Wirth, 2015
Total population	2002	153,598 head	Wirth, 2015
Total population	2003	172,292 head	Wirth, 2015
Total population	2004	166,407 head	Wirth, 2015
Total population	2005	172,746 head	Wirth, 2015
Total population	2006	183,673 head	Wirth, 2015
Total population	2007	178,240 head	Wirth, 2015
Total population	2008	172,969 head	Wirth, 2015
Total population	2009	160,545 head	Wirth, 2015
Total population	2010	157,632 head	Wirth, 2015
Total population	2011	161,225 head	Wirth, 2015
Total population	2012	166,263 head	Wirth, 2015
Total population	2013	162,174 head	Wirth, 2015
Total population	2014	174,028 head	Wirth, 2015
Volatile solids production rate	2000	671 kg / year	Wirth, 2015
Volatile solids production rate	2001	679 kg / year	Wirth, 2015
Volatile solids production rate	2002	684 kg / year	Wirth, 2015
Volatile solids production rate	2003	674 kg / year	Wirth, 2015
Volatile solids production rate	2004	668 kg / year	Wirth, 2015
Volatile solids production rate	2005	673 kg / year	Wirth, 2015
Volatile solids production rate	2006	670 kg / year	Wirth, 2015
Volatile solids production rate	2007	672 kg / year	Wirth, 2015
Volatile solids production rate	2008	675 kg / year	Wirth, 2015
Volatile solids production rate	2009	679 kg / year	Wirth, 2015
Volatile solids production rate	2010	676 kg / year	Wirth, 2015
Volatile solids production rate	2011	671 kg / year	Wirth, 2015
Volatile solids production rate	2012	675 kg / year	Wirth, 2015
Volatile solids production rate	2013	681 kg / year	Wirth, 2015
Volatile solids production rate	2014	682 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015
Activity = Livestock population - Feedlot - steers 500+ lbs - Dry lot			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Feedlot - steers 500+ lbs	2000	242,458 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2001	244,357 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2002	270,827 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2003	306,959 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2004	291,121 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2005	305,692 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2006	329,409 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2007	322,475 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2008	315,642 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2009	296,715 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2010	288,864 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2011	288,853 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2012	297,579 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2013	296,153 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2014	330,227 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0.02 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.33 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015

Variables Used in the Emissions Estimation Equations

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Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	54,901 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	54,972 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	55,918 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	54,581 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	53,941 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	54,113 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	54,319 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	54,585 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	54,995 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	55,425 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	54,828 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	54,423 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	55,142 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	55,963 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	56,089 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.987	Wirth, 2015
Proportion in manure management system	2001	0.987	Wirth, 2015
Proportion in manure management system	2002	0.987	Wirth, 2015
Proportion in manure management system	2003	0.987	Wirth, 2015
Proportion in manure management system	2004	0.987	Wirth, 2015
Proportion in manure management system	2005	0.987	Wirth, 2015
Proportion in manure management system	2006	0.987	Wirth, 2015
Proportion in manure management system	2007	0.987	Wirth, 2015
Proportion in manure management system	2008	0.987	Wirth, 2015
Proportion in manure management system	2009	0.987	Wirth, 2015
Proportion in manure management system	2010	0.987	Wirth, 2015
Proportion in manure management system	2011	0.987	Wirth, 2015
Proportion in manure management system	2012	0.987	Wirth, 2015
Proportion in manure management system	2013	0.987	Wirth, 2015
Proportion in manure management system	2014	0.987	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0.039	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2001	0.039	Wirth, 2015
Runoff fraction	2002	0.039	Wirth, 2015
Runoff fraction	2003	0.039	Wirth, 2015
Runoff fraction	2004	0.039	Wirth, 2015
Runoff fraction	2005	0.039	Wirth, 2015
Runoff fraction	2006	0.039	Wirth, 2015
Runoff fraction	2007	0.039	Wirth, 2015
Runoff fraction	2008	0.039	Wirth, 2015
Runoff fraction	2009	0.039	Wirth, 2015
Runoff fraction	2010	0.039	Wirth, 2015
Runoff fraction	2011	0.039	Wirth, 2015
Runoff fraction	2012	0.039	Wirth, 2015
Runoff fraction	2013	0.039	Wirth, 2015
Runoff fraction	2014	0.039	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	245,609 head	Wirth, 2015
Total population	2001	247,533 head	Wirth, 2015
Total population	2002	274,348 head	Wirth, 2015
Total population	2003	310,949 head	Wirth, 2015
Total population	2004	294,905 head	Wirth, 2015
Total population	2005	309,666 head	Wirth, 2015
Total population	2006	333,691 head	Wirth, 2015
Total population	2007	326,667 head	Wirth, 2015
Total population	2008	319,746 head	Wirth, 2015
Total population	2009	300,572 head	Wirth, 2015
Total population	2010	292,619 head	Wirth, 2015
Total population	2011	292,608 head	Wirth, 2015
Total population	2012	301,447 head	Wirth, 2015
Total population	2013	300,003 head	Wirth, 2015
Total population	2014	334,520 head	Wirth, 2015
Volatile solids production rate	2000	654 kg / year	Wirth, 2015
Volatile solids production rate	2001	661 kg / year	Wirth, 2015
Volatile solids production rate	2002	667 kg / year	Wirth, 2015
Volatile solids production rate	2003	658 kg / year	Wirth, 2015
Volatile solids production rate	2004	651 kg / year	Wirth, 2015
Volatile solids production rate	2005	653 kg / year	Wirth, 2015
Volatile solids production rate	2006	651 kg / year	Wirth, 2015
Volatile solids production rate	2007	654 kg / year	Wirth, 2015
Volatile solids production rate	2008	657 kg / year	Wirth, 2015
Volatile solids production rate	2009	660 kg / year	Wirth, 2015
Volatile solids production rate	2010	656 kg / year	Wirth, 2015
Volatile solids production rate	2011	651 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

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Volatile solids production rate	2012	655 kg / year	Wirth, 2015
Volatile solids production rate	2013	661 kg / year	Wirth, 2015
Volatile solids production rate	2014	663 kg / year	Wirth, 2015
Volatilized fraction	2000	0.23	Wirth, 2015
Volatilized fraction	2001	0.23	Wirth, 2015
Volatilized fraction	2002	0.23	Wirth, 2015
Volatilized fraction	2003	0.23	Wirth, 2015
Volatilized fraction	2004	0.23	Wirth, 2015
Volatilized fraction	2005	0.23	Wirth, 2015
Volatilized fraction	2006	0.23	Wirth, 2015
Volatilized fraction	2007	0.23	Wirth, 2015
Volatilized fraction	2008	0.23	Wirth, 2015
Volatilized fraction	2009	0.23	Wirth, 2015
Volatilized fraction	2010	0.23	Wirth, 2015
Volatilized fraction	2011	0.23	Wirth, 2015
Volatilized fraction	2012	0.23	Wirth, 2015
Volatilized fraction	2013	0.23	Wirth, 2015
Volatilized fraction	2014	0.23	Wirth, 2015

Activity = Livestock population - Feedlot - steers 500+ lbs - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Feedlot - steers 500+ lbs	2000	1,786 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2001	1,827 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2002	1,971 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2003	2,211 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2004	2,136 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2005	2,217 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2006	2,357 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2007	2,287 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2008	2,220 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2009	2,060 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2010	2,023 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2011	2,069 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2012	2,134 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2013	2,081 head	Calculation, see text
Livestock population - Feedlot - steers 500+ lbs	2014	2,233 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.33 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2005	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.33 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.37	Wirth, 2015
Methane conversion factor	2001	0.396	Wirth, 2015
Methane conversion factor	2002	0.4	Wirth, 2015
Methane conversion factor	2003	0.415	Wirth, 2015
Methane conversion factor	2004	0.39	Wirth, 2015
Methane conversion factor	2005	0.384	Wirth, 2015
Methane conversion factor	2006	0.401	Wirth, 2015
Methane conversion factor	2007	0.417	Wirth, 2015
Methane conversion factor	2008	0.417	Wirth, 2015
Methane conversion factor	2009	0.412	Wirth, 2015
Methane conversion factor	2010	0.384	Wirth, 2015
Methane conversion factor	2011	0.384	Wirth, 2015
Methane conversion factor	2012	0.423	Wirth, 2015
Methane conversion factor	2013	0.415	Wirth, 2015
Methane conversion factor	2014	0.415	Wirth, 2015
Nitrogen excretion rate	2000	53,482 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	53,536 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	54,280 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	52,882 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	52,464 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	52,955 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	53,071 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	53,077 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	53,598 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	54,152 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	53,551 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	53,210 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	53,902 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	54,688 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	54,722 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0128	Wirth, 2015
Proportion in manure management system	2001	0.0128	Wirth, 2015
Proportion in manure management system	2002	0.0128	Wirth, 2015
Proportion in manure management system	2003	0.0128	Wirth, 2015
Proportion in manure management system	2004	0.0128	Wirth, 2015
Proportion in manure management system	2005	0.0128	Wirth, 2015
Proportion in manure management system	2006	0.0128	Wirth, 2015
Proportion in manure management system	2007	0.0128	Wirth, 2015
Proportion in manure management system	2008	0.0128	Wirth, 2015
Proportion in manure management system	2009	0.0128	Wirth, 2015
Proportion in manure management system	2010	0.0128	Wirth, 2015
Proportion in manure management system	2011	0.0128	Wirth, 2015
Proportion in manure management system	2012	0.0128	Wirth, 2015
Proportion in manure management system	2013	0.0128	Wirth, 2015
Proportion in manure management system	2014	0.0128	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	139,142 head	Wirth, 2015
Total population	2001	142,349 head	Wirth, 2015
Total population	2002	153,598 head	Wirth, 2015
Total population	2003	172,292 head	Wirth, 2015
Total population	2004	166,407 head	Wirth, 2015
Total population	2005	172,746 head	Wirth, 2015
Total population	2006	183,673 head	Wirth, 2015
Total population	2007	178,240 head	Wirth, 2015
Total population	2008	172,969 head	Wirth, 2015
Total population	2009	160,545 head	Wirth, 2015
Total population	2010	157,632 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2011	161,225 head	Wirth, 2015
Total population	2012	166,263 head	Wirth, 2015
Total population	2013	162,174 head	Wirth, 2015
Total population	2014	174,028 head	Wirth, 2015
Volatile solids production rate	2000	671 kg / year	Wirth, 2015
Volatile solids production rate	2001	679 kg / year	Wirth, 2015
Volatile solids production rate	2002	684 kg / year	Wirth, 2015
Volatile solids production rate	2003	674 kg / year	Wirth, 2015
Volatile solids production rate	2004	668 kg / year	Wirth, 2015
Volatile solids production rate	2005	673 kg / year	Wirth, 2015
Volatile solids production rate	2006	670 kg / year	Wirth, 2015
Volatile solids production rate	2007	672 kg / year	Wirth, 2015
Volatile solids production rate	2008	675 kg / year	Wirth, 2015
Volatile solids production rate	2009	679 kg / year	Wirth, 2015
Volatile solids production rate	2010	676 kg / year	Wirth, 2015
Volatile solids production rate	2011	671 kg / year	Wirth, 2015
Volatile solids production rate	2012	675 kg / year	Wirth, 2015
Volatile solids production rate	2013	681 kg / year	Wirth, 2015
Volatile solids production rate	2014	682 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015

Activity = Livestock population - Not on feed - beef cows - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Not on feed - beef cows	2000	790,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2001	780,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2002	760,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2003	740,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2004	720,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2005	720,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2006	680,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2007	700,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2008	655,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2009	650,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2010	630,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2011	620,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2012	630,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2013	610,000 head	Calculation, see text
Livestock population - Not on feed - beef cows	2014	600,000 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	72,239 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	72,239 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	72,396 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	73,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	74,228 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	74,383 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	74,925 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	59,139 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	59,139 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	59,139 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	59,139 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	59,139 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	59,139 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	59,139 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	59,139 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2000	1	Wirth, 2015
Proportion in manure management system	2001	1	Wirth, 2015
Proportion in manure management system	2002	1	Wirth, 2015
Proportion in manure management system	2003	1	Wirth, 2015
Proportion in manure management system	2004	1	Wirth, 2015
Proportion in manure management system	2005	1	Wirth, 2015
Proportion in manure management system	2006	1	Wirth, 2015
Proportion in manure management system	2007	1	Wirth, 2015
Proportion in manure management system	2008	1	Wirth, 2015
Proportion in manure management system	2009	1	Wirth, 2015
Proportion in manure management system	2010	1	Wirth, 2015
Proportion in manure management system	2011	1	Wirth, 2015
Proportion in manure management system	2012	1	Wirth, 2015
Proportion in manure management system	2013	1	Wirth, 2015
Proportion in manure management system	2014	1	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	790,000 head	Wirth, 2015
Total population	2001	780,000 head	Wirth, 2015
Total population	2002	760,000 head	Wirth, 2015
Total population	2003	740,000 head	Wirth, 2015
Total population	2004	720,000 head	Wirth, 2015
Total population	2005	720,000 head	Wirth, 2015
Total population	2006	680,000 head	Wirth, 2015
Total population	2007	700,000 head	Wirth, 2015
Total population	2008	655,000 head	Wirth, 2015
Total population	2009	650,000 head	Wirth, 2015
Total population	2010	630,000 head	Wirth, 2015
Total population	2011	620,000 head	Wirth, 2015
Total population	2012	630,000 head	Wirth, 2015
Total population	2013	610,000 head	Wirth, 2015
Total population	2014	600,000 head	Wirth, 2015
Volatile solids production rate	2000	1,609 kg / year	Wirth, 2015
Volatile solids production rate	2001	1,609 kg / year	Wirth, 2015
Volatile solids production rate	2002	1,612 kg / year	Wirth, 2015
Volatile solids production rate	2003	1,637 kg / year	Wirth, 2015
Volatile solids production rate	2004	1,649 kg / year	Wirth, 2015
Volatile solids production rate	2005	1,652 kg / year	Wirth, 2015
Volatile solids production rate	2006	1,663 kg / year	Wirth, 2015
Volatile solids production rate	2007	1,891 kg / year	Wirth, 2015
Volatile solids production rate	2008	1,891 kg / year	Wirth, 2015
Volatile solids production rate	2009	1,891 kg / year	Wirth, 2015
Volatile solids production rate	2010	1,891 kg / year	Wirth, 2015
Volatile solids production rate	2011	1,891 kg / year	Wirth, 2015
Volatile solids production rate	2012	1,891 kg / year	Wirth, 2015
Volatile solids production rate	2013	1,891 kg / year	Wirth, 2015
Volatile solids production rate	2014	1,891 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

Activity = Livestock population - Not on feed - bulls 500+ lbs - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Not on feed - bulls 500+ lbs	2000	70,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2001	70,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2002	65,000 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Not on feed - bulls 500+ lbs	2003	65,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2004	65,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2005	70,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2006	75,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2007	70,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2008	70,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2009	65,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2010	70,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2011	70,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2012	70,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2013	70,000 head	Calculation, see text
Livestock population - Not on feed - bulls 500+ lbs	2014	70,000 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	81,508 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	81,508 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	81,701 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	83,232 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	83,947 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	84,138 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	84,802 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	68,532 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	68,532 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	68,532 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	68,532 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	68,532 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	68,532 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	68,532 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	68,532 g / year	USEPA, 2013d
Proportion in manure management system	2000	1	Wirth, 2015
Proportion in manure management system	2001	1	Wirth, 2015
Proportion in manure management system	2002	1	Wirth, 2015
Proportion in manure management system	2003	1	Wirth, 2015
Proportion in manure management system	2004	1	Wirth, 2015
Proportion in manure management system	2005	1	Wirth, 2015
Proportion in manure management system	2006	1	Wirth, 2015
Proportion in manure management system	2007	1	Wirth, 2015
Proportion in manure management system	2008	1	Wirth, 2015
Proportion in manure management system	2009	1	Wirth, 2015
Proportion in manure management system	2010	1	Wirth, 2015
Proportion in manure management system	2011	1	Wirth, 2015
Proportion in manure management system	2012	1	Wirth, 2015
Proportion in manure management system	2013	1	Wirth, 2015
Proportion in manure management system	2014	1	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	70,000 head	Wirth, 2015
Total population	2001	70,000 head	Wirth, 2015
Total population	2002	65,000 head	Wirth, 2015
Total population	2003	65,000 head	Wirth, 2015
Total population	2004	65,000 head	Wirth, 2015
Total population	2005	70,000 head	Wirth, 2015
Total population	2006	75,000 head	Wirth, 2015
Total population	2007	70,000 head	Wirth, 2015
Total population	2008	70,000 head	Wirth, 2015
Total population	2009	65,000 head	Wirth, 2015
Total population	2010	70,000 head	Wirth, 2015
Total population	2011	70,000 head	Wirth, 2015
Total population	2012	70,000 head	Wirth, 2015
Total population	2013	70,000 head	Wirth, 2015
Total population	2014	70,000 head	Wirth, 2015
Volatile solids production rate	2000	1,652 kg / year	Wirth, 2015
Volatile solids production rate	2001	1,652 kg / year	Wirth, 2015
Volatile solids production rate	2002	1,656 kg / year	Wirth, 2015
Volatile solids production rate	2003	1,687 kg / year	Wirth, 2015
Volatile solids production rate	2004	1,701 kg / year	Wirth, 2015
Volatile solids production rate	2005	1,705 kg / year	Wirth, 2015
Volatile solids production rate	2006	1,719 kg / year	Wirth, 2015
Volatile solids production rate	2007	1,956 kg / year	Wirth, 2015
Volatile solids production rate	2008	1,956 kg / year	Wirth, 2015
Volatile solids production rate	2009	1,956 kg / year	Wirth, 2015
Volatile solids production rate	2010	1,956 kg / year	Wirth, 2015
Volatile solids production rate	2011	1,956 kg / year	Wirth, 2015
Volatile solids production rate	2012	1,956 kg / year	Wirth, 2015
Volatile solids production rate	2013	1,956 kg / year	Wirth, 2015
Volatile solids production rate	2014	1,956 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2004	0 Wirth, 2015
Volatilized fraction	2005	0 Wirth, 2015
Volatilized fraction	2006	0 Wirth, 2015
Volatilized fraction	2007	0 Wirth, 2015
Volatilized fraction	2008	0 Wirth, 2015
Volatilized fraction	2009	0 Wirth, 2015
Volatilized fraction	2010	0 Wirth, 2015
Volatilized fraction	2011	0 Wirth, 2015
Volatilized fraction	2012	0 Wirth, 2015
Volatilized fraction	2013	0 Wirth, 2015
Volatilized fraction	2014	0 Wirth, 2015

Activity = Livestock population - Not on feed - calves <500 lbs - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Not on feed - calves <500 lbs	2000	1,213,504 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2001	1,210,015 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2002	1,231,461 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2003	1,243,519 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2004	1,250,694 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2005	1,267,271 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2006	1,259,537 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2007	1,277,422 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2008	1,272,243 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2009	1,272,629 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2010	1,225,639 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2011	1,217,292 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2012	1,237,441 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2013	1,224,328 head	Calculation, see text
Livestock population - Not on feed - calves <500 lbs	2014	1,222,199 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2012	0.17 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	15,085 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	15,624 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	16,162 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	16,701 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	17,240 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	17,779 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	18,317 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	18,856 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	19,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	19,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	19,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	19,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	19,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	19,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	19,395 g / year	USEPA, 2013d
Proportion in manure management system	2000	1	Wirth, 2015
Proportion in manure management system	2001	1	Wirth, 2015
Proportion in manure management system	2002	1	Wirth, 2015
Proportion in manure management system	2003	1	Wirth, 2015
Proportion in manure management system	2004	1	Wirth, 2015
Proportion in manure management system	2005	1	Wirth, 2015
Proportion in manure management system	2006	1	Wirth, 2015
Proportion in manure management system	2007	1	Wirth, 2015
Proportion in manure management system	2008	1	Wirth, 2015
Proportion in manure management system	2009	1	Wirth, 2015
Proportion in manure management system	2010	1	Wirth, 2015
Proportion in manure management system	2011	1	Wirth, 2015
Proportion in manure management system	2012	1	Wirth, 2015
Proportion in manure management system	2013	1	Wirth, 2015
Proportion in manure management system	2014	1	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	1,213,504 head	Wirth, 2015
Total population	2001	1,210,015 head	Wirth, 2015
Total population	2002	1,231,461 head	Wirth, 2015
Total population	2003	1,243,519 head	Wirth, 2015
Total population	2004	1,250,694 head	Wirth, 2015
Total population	2005	1,267,271 head	Wirth, 2015
Total population	2006	1,259,537 head	Wirth, 2015
Total population	2007	1,277,422 head	Wirth, 2015
Total population	2008	1,272,243 head	Wirth, 2015
Total population	2009	1,272,629 head	Wirth, 2015
Total population	2010	1,225,639 head	Wirth, 2015
Total population	2011	1,217,292 head	Wirth, 2015
Total population	2012	1,237,441 head	Wirth, 2015
Total population	2013	1,224,328 head	Wirth, 2015
Total population	2014	1,222,199 head	Wirth, 2015
Volatile solids production rate	2000	295 kg / year	Wirth, 2015
Volatile solids production rate	2001	299 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2002	304 kg / year	Wirth, 2015
Volatile solids production rate	2003	309 kg / year	Wirth, 2015
Volatile solids production rate	2004	313 kg / year	Wirth, 2015
Volatile solids production rate	2005	318 kg / year	Wirth, 2015
Volatile solids production rate	2006	323 kg / year	Wirth, 2015
Volatile solids production rate	2007	327 kg / year	Wirth, 2015
Volatile solids production rate	2008	332 kg / year	Wirth, 2015
Volatile solids production rate	2009	332 kg / year	Wirth, 2015
Volatile solids production rate	2010	332 kg / year	Wirth, 2015
Volatile solids production rate	2011	332 kg / year	Wirth, 2015
Volatile solids production rate	2012	332 kg / year	Wirth, 2015
Volatile solids production rate	2013	332 kg / year	Wirth, 2015
Volatile solids production rate	2014	332 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

Activity = Livestock population - Not on feed - heifers 500+ lbs - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Not on feed - heifers 500+ lbs	2000	208,840 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2001	201,852 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2002	199,003 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2003	190,878 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2004	185,634 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2005	202,887 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2006	188,369 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2007	184,243 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2008	176,900 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2009	185,858 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2010	208,356 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2011	193,494 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2012	197,162 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2013	199,756 head	Calculation, see text
Livestock population - Not on feed - heifers 500+ lbs	2014	201,943 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	48,680 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	48,609 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	48,671 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	49,169 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	49,209 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	49,238 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	49,386 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	39,273 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	38,933 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	38,946 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	38,775 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	38,711 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	38,789 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	38,798 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	38,642 g / year	USEPA, 2013d
Proportion in manure management system	2000	1	Wirth, 2015
Proportion in manure management system	2001	1	Wirth, 2015
Proportion in manure management system	2002	1	Wirth, 2015
Proportion in manure management system	2003	1	Wirth, 2015
Proportion in manure management system	2004	1	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2005	1	Wirth, 2015
Proportion in manure management system	2006	1	Wirth, 2015
Proportion in manure management system	2007	1	Wirth, 2015
Proportion in manure management system	2008	1	Wirth, 2015
Proportion in manure management system	2009	1	Wirth, 2015
Proportion in manure management system	2010	1	Wirth, 2015
Proportion in manure management system	2011	1	Wirth, 2015
Proportion in manure management system	2012	1	Wirth, 2015
Proportion in manure management system	2013	1	Wirth, 2015
Proportion in manure management system	2014	1	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2000	208,840 head	Wirth, 2015
Total population	2001	201,852 head	Wirth, 2015
Total population	2002	199,003 head	Wirth, 2015
Total population	2003	190,878 head	Wirth, 2015
Total population	2004	185,634 head	Wirth, 2015
Total population	2005	202,887 head	Wirth, 2015
Total population	2006	188,369 head	Wirth, 2015
Total population	2007	184,243 head	Wirth, 2015
Total population	2008	176,900 head	Wirth, 2015
Total population	2009	185,858 head	Wirth, 2015
Total population	2010	208,356 head	Wirth, 2015
Total population	2011	193,494 head	Wirth, 2015
Total population	2012	197,162 head	Wirth, 2015
Total population	2013	199,756 head	Wirth, 2015
Total population	2014	201,943 head	Wirth, 2015
Volatile solids production rate	2000	1,041 kg / year	Wirth, 2015
Volatile solids production rate	2001	1,038 kg / year	Wirth, 2015
Volatile solids production rate	2002	1,041 kg / year	Wirth, 2015
Volatile solids production rate	2003	1,054 kg / year	Wirth, 2015
Volatile solids production rate	2004	1,056 kg / year	Wirth, 2015
Volatile solids production rate	2005	1,058 kg / year	Wirth, 2015
Volatile solids production rate	2006	1,061 kg / year	Wirth, 2015
Volatile solids production rate	2007	1,224 kg / year	Wirth, 2015
Volatile solids production rate	2008	1,217 kg / year	Wirth, 2015
Volatile solids production rate	2009	1,215 kg / year	Wirth, 2015
Volatile solids production rate	2010	1,212 kg / year	Wirth, 2015
Volatile solids production rate	2011	1,211 kg / year	Wirth, 2015
Volatile solids production rate	2012	1,215 kg / year	Wirth, 2015
Volatile solids production rate	2013	1,215 kg / year	Wirth, 2015
Volatile solids production rate	2014	1,211 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

Activity = Livestock population - Not on feed - steers 500+ lbs - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Not on feed - steers 500+ lbs	2000	345,130 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2001	333,890 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2002	338,314 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2003	310,115 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2004	318,654 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2005	333,041 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2006	308,303 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2007	321,266 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Not on feed - steers 500+ lbs	2008	302,576 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2009	305,549 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2010	303,170 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2011	272,352 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2012	283,194 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2013	285,534 head	Calculation, see text
Livestock population - Not on feed - steers 500+ lbs	2014	302,705 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	43,745 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	43,706 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	43,777 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2003	43,375 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	43,000 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	43,085 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	43,052 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	33,441 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	33,413 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	33,594 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	33,547 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	33,359 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	33,231 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	33,410 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	33,466 g / year	USEPA, 2013d
Proportion in manure management system	2000	1	Wirth, 2015
Proportion in manure management system	2001	1	Wirth, 2015
Proportion in manure management system	2002	1	Wirth, 2015
Proportion in manure management system	2003	1	Wirth, 2015
Proportion in manure management system	2004	1	Wirth, 2015
Proportion in manure management system	2005	1	Wirth, 2015
Proportion in manure management system	2006	1	Wirth, 2015
Proportion in manure management system	2007	1	Wirth, 2015
Proportion in manure management system	2008	1	Wirth, 2015
Proportion in manure management system	2009	1	Wirth, 2015
Proportion in manure management system	2010	1	Wirth, 2015
Proportion in manure management system	2011	1	Wirth, 2015
Proportion in manure management system	2012	1	Wirth, 2015
Proportion in manure management system	2013	1	Wirth, 2015
Proportion in manure management system	2014	1	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	345,130 head	Wirth, 2015
Total population	2001	333,890 head	Wirth, 2015
Total population	2002	338,314 head	Wirth, 2015
Total population	2003	310,115 head	Wirth, 2015
Total population	2004	318,654 head	Wirth, 2015
Total population	2005	333,041 head	Wirth, 2015
Total population	2006	308,303 head	Wirth, 2015
Total population	2007	321,266 head	Wirth, 2015
Total population	2008	302,576 head	Wirth, 2015
Total population	2009	305,549 head	Wirth, 2015
Total population	2010	303,170 head	Wirth, 2015
Total population	2011	272,352 head	Wirth, 2015
Total population	2012	283,194 head	Wirth, 2015
Total population	2013	285,534 head	Wirth, 2015
Total population	2014	302,705 head	Wirth, 2015
Volatile solids production rate	2000	985 kg / year	Wirth, 2015
Volatile solids production rate	2001	981 kg / year	Wirth, 2015
Volatile solids production rate	2002	983 kg / year	Wirth, 2015
Volatile solids production rate	2003	980 kg / year	Wirth, 2015
Volatile solids production rate	2004	972 kg / year	Wirth, 2015
Volatile solids production rate	2005	976 kg / year	Wirth, 2015
Volatile solids production rate	2006	973 kg / year	Wirth, 2015
Volatile solids production rate	2007	1,115 kg / year	Wirth, 2015
Volatile solids production rate	2008	1,114 kg / year	Wirth, 2015
Volatile solids production rate	2009	1,114 kg / year	Wirth, 2015
Volatile solids production rate	2010	1,115 kg / year	Wirth, 2015
Volatile solids production rate	2011	1,112 kg / year	Wirth, 2015
Volatile solids production rate	2012	1,112 kg / year	Wirth, 2015
Volatile solids production rate	2013	1,116 kg / year	Wirth, 2015
Volatile solids production rate	2014	1,116 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatileized fraction	2009	0 Wirth, 2015
Volatileized fraction	2010	0 Wirth, 2015
Volatileized fraction	2011	0 Wirth, 2015
Volatileized fraction	2012	0 Wirth, 2015
Volatileized fraction	2013	0 Wirth, 2015
Volatileized fraction	2014	0 Wirth, 2015

IPCC category = 3A2c — Livestock - Manure Management - Sheep

Activity = Livestock population - Sheep - Dry lot

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Sheep	2000	221,027 head	Calculation, see text
Livestock population - Sheep	2001	250,355 head	Calculation, see text
Livestock population - Sheep	2002	234,805 head	Calculation, see text
Livestock population - Sheep	2003	227,030 head	Calculation, see text
Livestock population - Sheep	2004	209,925 head	Calculation, see text
Livestock population - Sheep	2005	214,590 head	Calculation, see text
Livestock population - Sheep	2006	202,150 head	Calculation, see text
Livestock population - Sheep	2007	189,710 head	Calculation, see text
Livestock population - Sheep	2008	192,820 head	Calculation, see text
Livestock population - Sheep	2009	205,260 head	Calculation, see text
Livestock population - Sheep	2010	189,710 head	Calculation, see text
Livestock population - Sheep	2011	186,600 head	Calculation, see text
Livestock population - Sheep	2012	183,490 head	Calculation, see text
Livestock population - Sheep	2013	177,270 head	Calculation, see text
Livestock population - Sheep	2014	183,490 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0.02 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.341 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	10,674 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	10,749 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	10,824 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	10,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	10,975 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	11,050 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	11,125 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	11,200 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	11,275 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.273	Wirth, 2015
Proportion in manure management system	2001	0.311	Wirth, 2015
Proportion in manure management system	2002	0.311	Wirth, 2015
Proportion in manure management system	2003	0.311	Wirth, 2015
Proportion in manure management system	2004	0.311	Wirth, 2015
Proportion in manure management system	2005	0.311	Wirth, 2015
Proportion in manure management system	2006	0.311	Wirth, 2015
Proportion in manure management system	2007	0.311	Wirth, 2015
Proportion in manure management system	2008	0.311	Wirth, 2015
Proportion in manure management system	2009	0.311	Wirth, 2015
Proportion in manure management system	2010	0.311	Wirth, 2015
Proportion in manure management system	2011	0.311	Wirth, 2015
Proportion in manure management system	2012	0.311	Wirth, 2015
Proportion in manure management system	2013	0.311	Wirth, 2015
Proportion in manure management system	2014	0.311	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0.039	Wirth, 2015
Runoff fraction	2001	0.039	Wirth, 2015
Runoff fraction	2002	0.039	Wirth, 2015
Runoff fraction	2003	0.039	Wirth, 2015
Runoff fraction	2004	0.039	Wirth, 2015
Runoff fraction	2005	0.039	Wirth, 2015
Runoff fraction	2006	0.039	Wirth, 2015
Runoff fraction	2007	0.039	Wirth, 2015
Runoff fraction	2008	0.039	Wirth, 2015
Runoff fraction	2009	0.039	Wirth, 2015
Runoff fraction	2010	0.039	Wirth, 2015
Runoff fraction	2011	0.039	Wirth, 2015
Runoff fraction	2012	0.039	Wirth, 2015
Runoff fraction	2013	0.039	Wirth, 2015
Runoff fraction	2014	0.039	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	810,000 head	Wirth, 2015
Total population	2001	805,000 head	Wirth, 2015
Total population	2002	755,000 head	Wirth, 2015
Total population	2003	730,000 head	Wirth, 2015
Total population	2004	675,000 head	Wirth, 2015
Total population	2005	690,000 head	Wirth, 2015
Total population	2006	650,000 head	Wirth, 2015
Total population	2007	610,000 head	Wirth, 2015
Total population	2008	620,000 head	Wirth, 2015
Total population	2009	660,000 head	Wirth, 2015
Total population	2010	610,000 head	Wirth, 2015
Total population	2011	600,000 head	Wirth, 2015
Total population	2012	590,000 head	Wirth, 2015
Total population	2013	570,000 head	Wirth, 2015
Total population	2014	590,000 head	Wirth, 2015
Volatile solids production rate	2000	226 kg / year	Wirth, 2015
Volatile solids production rate	2001	224 kg / year	Wirth, 2015
Volatile solids production rate	2002	221 kg / year	Wirth, 2015
Volatile solids production rate	2003	219 kg / year	Wirth, 2015
Volatile solids production rate	2004	217 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2005	215 kg / year	Wirth, 2015
Volatile solids production rate	2006	212 kg / year	Wirth, 2015
Volatile solids production rate	2007	210 kg / year	Wirth, 2015
Volatile solids production rate	2008	208 kg / year	Wirth, 2015
Volatile solids production rate	2009	208 kg / year	Wirth, 2015
Volatile solids production rate	2010	208 kg / year	Wirth, 2015
Volatile solids production rate	2011	208 kg / year	Wirth, 2015
Volatile solids production rate	2012	208 kg / year	Wirth, 2015
Volatile solids production rate	2013	208 kg / year	Wirth, 2015
Volatile solids production rate	2014	208 kg / year	Wirth, 2015
Volatilized fraction	2000	0.23	Wirth, 2015
Volatilized fraction	2001	0.23	Wirth, 2015
Volatilized fraction	2002	0.23	Wirth, 2015
Volatilized fraction	2003	0.23	Wirth, 2015
Volatilized fraction	2004	0.23	Wirth, 2015
Volatilized fraction	2005	0.23	Wirth, 2015
Volatilized fraction	2006	0.23	Wirth, 2015
Volatilized fraction	2007	0.23	Wirth, 2015
Volatilized fraction	2008	0.23	Wirth, 2015
Volatilized fraction	2009	0.23	Wirth, 2015
Volatilized fraction	2010	0.23	Wirth, 2015
Volatilized fraction	2011	0.23	Wirth, 2015
Volatilized fraction	2012	0.23	Wirth, 2015
Volatilized fraction	2013	0.23	Wirth, 2015
Volatilized fraction	2014	0.23	Wirth, 2015

Activity = Livestock population - Sheep - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Sheep	2000	588,973 head	Calculation, see text
Livestock population - Sheep	2001	554,645 head	Calculation, see text
Livestock population - Sheep	2002	520,195 head	Calculation, see text
Livestock population - Sheep	2003	502,970 head	Calculation, see text
Livestock population - Sheep	2004	465,075 head	Calculation, see text
Livestock population - Sheep	2005	475,410 head	Calculation, see text
Livestock population - Sheep	2006	447,850 head	Calculation, see text
Livestock population - Sheep	2007	420,290 head	Calculation, see text
Livestock population - Sheep	2008	427,180 head	Calculation, see text
Livestock population - Sheep	2009	454,740 head	Calculation, see text
Livestock population - Sheep	2010	420,290 head	Calculation, see text
Livestock population - Sheep	2011	413,400 head	Calculation, see text
Livestock population - Sheep	2012	406,510 head	Calculation, see text
Livestock population - Sheep	2013	392,730 head	Calculation, see text
Livestock population - Sheep	2014	406,510 head	Calculation, see text
Direct N as N2O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2012	0 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.341 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.341 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	10,674 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	10,749 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	10,824 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	10,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	10,975 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	11,050 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	11,125 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	11,200 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	11,275 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	11,275 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.727	Wirth, 2015
Proportion in manure management system	2001	0.689	Wirth, 2015
Proportion in manure management system	2002	0.689	Wirth, 2015
Proportion in manure management system	2003	0.689	Wirth, 2015
Proportion in manure management system	2004	0.689	Wirth, 2015
Proportion in manure management system	2005	0.689	Wirth, 2015
Proportion in manure management system	2006	0.689	Wirth, 2015
Proportion in manure management system	2007	0.689	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2008	0.689	Wirth, 2015
Proportion in manure management system	2009	0.689	Wirth, 2015
Proportion in manure management system	2010	0.689	Wirth, 2015
Proportion in manure management system	2011	0.689	Wirth, 2015
Proportion in manure management system	2012	0.689	Wirth, 2015
Proportion in manure management system	2013	0.689	Wirth, 2015
Proportion in manure management system	2014	0.689	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	810,000 head	Wirth, 2015
Total population	2001	805,000 head	Wirth, 2015
Total population	2002	755,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2003	730,000 head	Wirth, 2015
Total population	2004	675,000 head	Wirth, 2015
Total population	2005	690,000 head	Wirth, 2015
Total population	2006	650,000 head	Wirth, 2015
Total population	2007	610,000 head	Wirth, 2015
Total population	2008	620,000 head	Wirth, 2015
Total population	2009	660,000 head	Wirth, 2015
Total population	2010	610,000 head	Wirth, 2015
Total population	2011	600,000 head	Wirth, 2015
Total population	2012	590,000 head	Wirth, 2015
Total population	2013	570,000 head	Wirth, 2015
Total population	2014	590,000 head	Wirth, 2015
Volatile solids production rate	2000	226 kg / year	Wirth, 2015
Volatile solids production rate	2001	224 kg / year	Wirth, 2015
Volatile solids production rate	2002	221 kg / year	Wirth, 2015
Volatile solids production rate	2003	219 kg / year	Wirth, 2015
Volatile solids production rate	2004	217 kg / year	Wirth, 2015
Volatile solids production rate	2005	215 kg / year	Wirth, 2015
Volatile solids production rate	2006	212 kg / year	Wirth, 2015
Volatile solids production rate	2007	210 kg / year	Wirth, 2015
Volatile solids production rate	2008	208 kg / year	Wirth, 2015
Volatile solids production rate	2009	208 kg / year	Wirth, 2015
Volatile solids production rate	2010	208 kg / year	Wirth, 2015
Volatile solids production rate	2011	208 kg / year	Wirth, 2015
Volatile solids production rate	2012	208 kg / year	Wirth, 2015
Volatile solids production rate	2013	208 kg / year	Wirth, 2015
Volatile solids production rate	2014	208 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

IPCC category = 3A2d — Livestock - Manure Management - Goats

Activity = Livestock population - Goats - Dry lot

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Goats	2000	6,608 head	Calculation, see text
Livestock population - Goats	2001	7,429 head	Calculation, see text
Livestock population - Goats	2002	8,250 head	Calculation, see text
Livestock population - Goats	2003	8,693 head	Calculation, see text
Livestock population - Goats	2004	9,136 head	Calculation, see text
Livestock population - Goats	2005	9,579 head	Calculation, see text
Livestock population - Goats	2006	10,023 head	Calculation, see text
Livestock population - Goats	2007	10,466 head	Calculation, see text
Livestock population - Goats	2008	10,613 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Goats	2009	10,761 head	Calculation, see text
Livestock population - Goats	2010	10,908 head	Calculation, see text
Livestock population - Goats	2011	11,056 head	Calculation, see text
Livestock population - Goats	2012	11,203 head	Calculation, see text
Livestock population - Goats	2013	11,351 head	Calculation, see text
Livestock population - Goats	2014	11,498 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0.02 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	10,519 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2004	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	10,519 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.08	Wirth, 2015
Proportion in manure management system	2001	0.08	Wirth, 2015
Proportion in manure management system	2002	0.08	Wirth, 2015
Proportion in manure management system	2003	0.08	Wirth, 2015
Proportion in manure management system	2004	0.08	Wirth, 2015
Proportion in manure management system	2005	0.08	Wirth, 2015
Proportion in manure management system	2006	0.08	Wirth, 2015
Proportion in manure management system	2007	0.08	Wirth, 2015
Proportion in manure management system	2008	0.08	Wirth, 2015
Proportion in manure management system	2009	0.08	Wirth, 2015
Proportion in manure management system	2010	0.08	Wirth, 2015
Proportion in manure management system	2011	0.08	Wirth, 2015
Proportion in manure management system	2012	0.08	Wirth, 2015
Proportion in manure management system	2013	0.08	Wirth, 2015
Proportion in manure management system	2014	0.08	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0.039	Wirth, 2015
Runoff fraction	2001	0.039	Wirth, 2015
Runoff fraction	2002	0.039	Wirth, 2015
Runoff fraction	2003	0.039	Wirth, 2015
Runoff fraction	2004	0.039	Wirth, 2015
Runoff fraction	2005	0.039	Wirth, 2015
Runoff fraction	2006	0.039	Wirth, 2015
Runoff fraction	2007	0.039	Wirth, 2015
Runoff fraction	2008	0.039	Wirth, 2015
Runoff fraction	2009	0.039	Wirth, 2015
Runoff fraction	2010	0.039	Wirth, 2015
Runoff fraction	2011	0.039	Wirth, 2015
Runoff fraction	2012	0.039	Wirth, 2015
Runoff fraction	2013	0.039	Wirth, 2015
Runoff fraction	2014	0.039	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	82,600 head	Wirth, 2015
Total population	2001	92,861 head	Wirth, 2015
Total population	2002	103,122 head	Wirth, 2015
Total population	2003	108,662 head	Wirth, 2015
Total population	2004	114,202 head	Wirth, 2015
Total population	2005	119,743 head	Wirth, 2015
Total population	2006	125,283 head	Wirth, 2015
Total population	2007	130,823 head	Wirth, 2015
Total population	2008	132,667 head	Wirth, 2015
Total population	2009	134,511 head	Wirth, 2015
Total population	2010	136,354 head	Wirth, 2015
Total population	2011	138,198 head	Wirth, 2015
Total population	2012	140,042 head	Wirth, 2015
Total population	2013	141,886 head	Wirth, 2015
Total population	2014	143,730 head	Wirth, 2015
Volatile solids production rate	2000	222 kg / year	Wirth, 2015
Volatile solids production rate	2001	222 kg / year	Wirth, 2015
Volatile solids production rate	2002	222 kg / year	Wirth, 2015
Volatile solids production rate	2003	222 kg / year	Wirth, 2015
Volatile solids production rate	2004	222 kg / year	Wirth, 2015
Volatile solids production rate	2005	222 kg / year	Wirth, 2015
Volatile solids production rate	2006	222 kg / year	Wirth, 2015
Volatile solids production rate	2007	222 kg / year	Wirth, 2015
Volatile solids production rate	2008	222 kg / year	Wirth, 2015
Volatile solids production rate	2009	222 kg / year	Wirth, 2015
Volatile solids production rate	2010	222 kg / year	Wirth, 2015
Volatile solids production rate	2011	222 kg / year	Wirth, 2015
Volatile solids production rate	2012	222 kg / year	Wirth, 2015
Volatile solids production rate	2013	222 kg / year	Wirth, 2015
Volatile solids production rate	2014	222 kg / year	Wirth, 2015
Volatilized fraction	2000	0.23	Wirth, 2015
Volatilized fraction	2001	0.23	Wirth, 2015
Volatilized fraction	2002	0.23	Wirth, 2015
Volatilized fraction	2003	0.23	Wirth, 2015
Volatilized fraction	2004	0.23	Wirth, 2015
Volatilized fraction	2005	0.23	Wirth, 2015
Volatilized fraction	2006	0.23	Wirth, 2015
Volatilized fraction	2007	0.23	Wirth, 2015
Volatilized fraction	2008	0.23	Wirth, 2015
Volatilized fraction	2009	0.23	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2010	0.23	Wirth, 2015
Volatilized fraction	2011	0.23	Wirth, 2015
Volatilized fraction	2012	0.23	Wirth, 2015
Volatilized fraction	2013	0.23	Wirth, 2015
Volatilized fraction	2014	0.23	Wirth, 2015
Activity = Livestock population - Goats - Pasture			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Goats	2000	75,992 head	Calculation, see text
Livestock population - Goats	2001	85,432 head	Calculation, see text
Livestock population - Goats	2002	94,872 head	Calculation, see text
Livestock population - Goats	2003	99,969 head	Calculation, see text
Livestock population - Goats	2004	105,066 head	Calculation, see text
Livestock population - Goats	2005	110,163 head	Calculation, see text
Livestock population - Goats	2006	115,260 head	Calculation, see text
Livestock population - Goats	2007	120,357 head	Calculation, see text
Livestock population - Goats	2008	122,053 head	Calculation, see text
Livestock population - Goats	2009	123,750 head	Calculation, see text
Livestock population - Goats	2010	125,446 head	Calculation, see text
Livestock population - Goats	2011	127,142 head	Calculation, see text
Livestock population - Goats	2012	128,839 head	Calculation, see text
Livestock population - Goats	2013	130,535 head	Calculation, see text
Livestock population - Goats	2014	132,231 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.17 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.17 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	10,519 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	10,519 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.92	Wirth, 2015
Proportion in manure management system	2001	0.92	Wirth, 2015
Proportion in manure management system	2002	0.92	Wirth, 2015
Proportion in manure management system	2003	0.92	Wirth, 2015
Proportion in manure management system	2004	0.92	Wirth, 2015
Proportion in manure management system	2005	0.92	Wirth, 2015
Proportion in manure management system	2006	0.92	Wirth, 2015
Proportion in manure management system	2007	0.92	Wirth, 2015
Proportion in manure management system	2008	0.92	Wirth, 2015
Proportion in manure management system	2009	0.92	Wirth, 2015
Proportion in manure management system	2010	0.92	Wirth, 2015
Proportion in manure management system	2011	0.92	Wirth, 2015
Proportion in manure management system	2012	0.92	Wirth, 2015
Proportion in manure management system	2013	0.92	Wirth, 2015
Proportion in manure management system	2014	0.92	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	82,600 head	Wirth, 2015
Total population	2001	92,861 head	Wirth, 2015
Total population	2002	103,122 head	Wirth, 2015
Total population	2003	108,662 head	Wirth, 2015
Total population	2004	114,202 head	Wirth, 2015
Total population	2005	119,743 head	Wirth, 2015
Total population	2006	125,283 head	Wirth, 2015
Total population	2007	130,823 head	Wirth, 2015
Total population	2008	132,667 head	Wirth, 2015
Total population	2009	134,511 head	Wirth, 2015
Total population	2010	136,354 head	Wirth, 2015
Total population	2011	138,198 head	Wirth, 2015
Total population	2012	140,042 head	Wirth, 2015
Total population	2013	141,886 head	Wirth, 2015
Total population	2014	143,730 head	Wirth, 2015
Volatile solids production rate	2000	222 kg / year	Wirth, 2015
Volatile solids production rate	2001	222 kg / year	Wirth, 2015
Volatile solids production rate	2002	222 kg / year	Wirth, 2015
Volatile solids production rate	2003	222 kg / year	Wirth, 2015
Volatile solids production rate	2004	222 kg / year	Wirth, 2015
Volatile solids production rate	2005	222 kg / year	Wirth, 2015
Volatile solids production rate	2006	222 kg / year	Wirth, 2015
Volatile solids production rate	2007	222 kg / year	Wirth, 2015
Volatile solids production rate	2008	222 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2009	222 kg / year	Wirth, 2015
Volatile solids production rate	2010	222 kg / year	Wirth, 2015
Volatile solids production rate	2011	222 kg / year	Wirth, 2015
Volatile solids production rate	2012	222 kg / year	Wirth, 2015
Volatile solids production rate	2013	222 kg / year	Wirth, 2015
Volatile solids production rate	2014	222 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

IPCC category = 3A2f — Livestock - Manure Management - Horses

Activity = Livestock population - Horses - Dry lot

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Horses	2000	31,820 head	Calculation, see text
Livestock population - Horses	2001	33,399 head	Calculation, see text
Livestock population - Horses	2002	36,435 head	Calculation, see text
Livestock population - Horses	2003	42,508 head	Calculation, see text
Livestock population - Horses	2004	48,581 head	Calculation, see text
Livestock population - Horses	2005	55,868 head	Calculation, see text
Livestock population - Horses	2006	57,689 head	Calculation, see text
Livestock population - Horses	2007	57,689 head	Calculation, see text
Livestock population - Horses	2008	57,689 head	Calculation, see text
Livestock population - Horses	2009	59,511 head	Calculation, see text
Livestock population - Horses	2010	60,726 head	Calculation, see text
Livestock population - Horses	2011	61,637 head	Calculation, see text
Livestock population - Horses	2012	61,637 head	Calculation, see text
Livestock population - Horses	2013	61,637 head	Calculation, see text
Livestock population - Horses	2014	61,637 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0.02 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0.02 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2000	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.33 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.33 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	47,501 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	46,597 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	45,693 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	44,789 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	43,885 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	42,981 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	42,077 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	41,173 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	40,269 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.08	Wirth, 2015
Proportion in manure management system	2001	0.08	Wirth, 2015
Proportion in manure management system	2002	0.08	Wirth, 2015
Proportion in manure management system	2003	0.08	Wirth, 2015
Proportion in manure management system	2004	0.08	Wirth, 2015
Proportion in manure management system	2005	0.08	Wirth, 2015
Proportion in manure management system	2006	0.08	Wirth, 2015
Proportion in manure management system	2007	0.08	Wirth, 2015
Proportion in manure management system	2008	0.08	Wirth, 2015
Proportion in manure management system	2009	0.08	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2010	0.08	Wirth, 2015
Proportion in manure management system	2011	0.08	Wirth, 2015
Proportion in manure management system	2012	0.08	Wirth, 2015
Proportion in manure management system	2013	0.08	Wirth, 2015
Proportion in manure management system	2014	0.08	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	397,753 head	TSD Manure Management
Total population	2001	417,489 head	TSD Manure Management
Total population	2002	455,442 head	TSD Manure Management
Total population	2003	531,349 head	TSD Manure Management
Total population	2004	607,257 head	TSD Manure Management

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2005	698,345 head	TSD Manure Management
Total population	2006	721,117 head	TSD Manure Management
Total population	2007	721,117 head	TSD Manure Management
Total population	2008	721,117 head	TSD Manure Management
Total population	2009	743,889 head	TSD Manure Management
Total population	2010	759,071 head	TSD Manure Management
Total population	2011	770,457 head	TSD Manure Management
Total population	2012	770,457 head	Assume equal to previous year
Total population	2013	770,457 head	Assume equal to previous year
Total population	2014	770,457 head	Assume equal to previous year
Volatile solids production rate	2000	1,515 kg / year	Wirth, 2015
Volatile solids production rate	2001	1,451 kg / year	Wirth, 2015
Volatile solids production rate	2002	1,387 kg / year	Wirth, 2015
Volatile solids production rate	2003	1,323 kg / year	Wirth, 2015
Volatile solids production rate	2004	1,259 kg / year	Wirth, 2015
Volatile solids production rate	2005	1,195 kg / year	Wirth, 2015
Volatile solids production rate	2006	1,131 kg / year	Wirth, 2015
Volatile solids production rate	2007	1,067 kg / year	Wirth, 2015
Volatile solids production rate	2008	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2009	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2010	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2011	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2012	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2013	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2014	1,003 kg / year	Wirth, 2015
Volatilized fraction	2000	0.12	Wirth, 2015
Volatilized fraction	2001	0.12	Wirth, 2015
Volatilized fraction	2002	0.12	Wirth, 2015
Volatilized fraction	2003	0.12	Wirth, 2015
Volatilized fraction	2004	0.12	Wirth, 2015
Volatilized fraction	2005	0.12	Wirth, 2015
Volatilized fraction	2006	0.12	Wirth, 2015
Volatilized fraction	2007	0.12	Wirth, 2015
Volatilized fraction	2008	0.12	Wirth, 2015
Volatilized fraction	2009	0.12	Wirth, 2015
Volatilized fraction	2010	0.12	Wirth, 2015
Volatilized fraction	2011	0.12	Wirth, 2015
Volatilized fraction	2012	0.12	Wirth, 2015
Volatilized fraction	2013	0.12	Wirth, 2015
Volatilized fraction	2014	0.12	Wirth, 2015

Activity = Livestock population - Horses - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Horses	2000	365,933 head	Calculation, see text
Livestock population - Horses	2001	384,090 head	Calculation, see text
Livestock population - Horses	2002	419,007 head	Calculation, see text
Livestock population - Horses	2003	488,841 head	Calculation, see text
Livestock population - Horses	2004	558,676 head	Calculation, see text
Livestock population - Horses	2005	642,477 head	Calculation, see text
Livestock population - Horses	2006	663,428 head	Calculation, see text
Livestock population - Horses	2007	663,428 head	Calculation, see text
Livestock population - Horses	2008	663,428 head	Calculation, see text
Livestock population - Horses	2009	684,378 head	Calculation, see text
Livestock population - Horses	2010	698,345 head	Calculation, see text
Livestock population - Horses	2011	708,820 head	Calculation, see text
Livestock population - Horses	2012	708,820 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Horses	2013	708,820 head	Calculation, see text
Livestock population - Horses	2014	708,820 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.33 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.33 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	47,501 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	46,597 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	45,693 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	44,789 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	43,885 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	42,981 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	42,077 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	41,173 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2008	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	40,269 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	40,269 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.92	Wirth, 2015
Proportion in manure management system	2001	0.92	Wirth, 2015
Proportion in manure management system	2002	0.92	Wirth, 2015
Proportion in manure management system	2003	0.92	Wirth, 2015
Proportion in manure management system	2004	0.92	Wirth, 2015
Proportion in manure management system	2005	0.92	Wirth, 2015
Proportion in manure management system	2006	0.92	Wirth, 2015
Proportion in manure management system	2007	0.92	Wirth, 2015
Proportion in manure management system	2008	0.92	Wirth, 2015
Proportion in manure management system	2009	0.92	Wirth, 2015
Proportion in manure management system	2010	0.92	Wirth, 2015
Proportion in manure management system	2011	0.92	Wirth, 2015
Proportion in manure management system	2012	0.92	Wirth, 2015
Proportion in manure management system	2013	0.92	Wirth, 2015
Proportion in manure management system	2014	0.92	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	397,753 head	TSD Manure Management
Total population	2001	417,489 head	TSD Manure Management
Total population	2002	455,442 head	TSD Manure Management
Total population	2003	531,349 head	TSD Manure Management
Total population	2004	607,257 head	TSD Manure Management
Total population	2005	698,345 head	TSD Manure Management
Total population	2006	721,117 head	TSD Manure Management
Total population	2007	721,117 head	TSD Manure Management
Total population	2008	721,117 head	TSD Manure Management
Total population	2009	743,889 head	TSD Manure Management
Total population	2010	759,071 head	TSD Manure Management
Total population	2011	770,457 head	TSD Manure Management
Total population	2012	770,457 head	Assume equal to previous year
Total population	2013	770,457 head	Assume equal to previous year
Total population	2014	770,457 head	Assume equal to previous year
Volatile solids production rate	2000	1,515 kg / year	Wirth, 2015
Volatile solids production rate	2001	1,451 kg / year	Wirth, 2015
Volatile solids production rate	2002	1,387 kg / year	Wirth, 2015
Volatile solids production rate	2003	1,323 kg / year	Wirth, 2015
Volatile solids production rate	2004	1,259 kg / year	Wirth, 2015
Volatile solids production rate	2005	1,195 kg / year	Wirth, 2015
Volatile solids production rate	2006	1,131 kg / year	Wirth, 2015
Volatile solids production rate	2007	1,067 kg / year	Wirth, 2015
Volatile solids production rate	2008	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2009	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2010	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2011	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2012	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2013	1,003 kg / year	Wirth, 2015
Volatile solids production rate	2014	1,003 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015

Volatilized fraction

2014

0 Wirth, 2015

IPCC category = 3A2h — Livestock - Manure Management - Swine**Activity = Livestock population - Swine - breeding - Anaerobic digester**

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - breeding	2000	413 head	Calculation, see text
Livestock population - Swine - breeding	2001	564 head	Calculation, see text
Livestock population - Swine - breeding	2002	242 head	Calculation, see text
Livestock population - Swine - breeding	2003	244 head	Calculation, see text
Livestock population - Swine - breeding	2004	236 head	Calculation, see text
Livestock population - Swine - breeding	2005	228 head	Calculation, see text
Livestock population - Swine - breeding	2006	1,034 head	Calculation, see text
Livestock population - Swine - breeding	2007	968 head	Calculation, see text
Livestock population - Swine - breeding	2008	0 head	Calculation, see text
Livestock population - Swine - breeding	2009	0 head	Calculation, see text
Livestock population - Swine - breeding	2010	0 head	Calculation, see text
Livestock population - Swine - breeding	2011	0 head	Calculation, see text
Livestock population - Swine - breeding	2012	0 head	Calculation, see text
Livestock population - Swine - breeding	2013	0 head	Calculation, see text
Livestock population - Swine - breeding	2014	0 head	Calculation, see text
Direct N as N2O emission factor	2000	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2001	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2002	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2003	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2004	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2005	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2006	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2007	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2008	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2009	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2010	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2011	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2012	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2013	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2014	0 g / g	TSD Manure Management
Maximum methane production capacity	2000	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.239	Wirth, 2015
Methane conversion factor	2001	0.239	Wirth, 2015
Methane conversion factor	2002	0.239	Wirth, 2015
Methane conversion factor	2003	0.239	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2004	0.239	Wirth, 2015
Methane conversion factor	2005	0.239	Wirth, 2015
Methane conversion factor	2006	0.239	Wirth, 2015
Methane conversion factor	2007	0.239	Wirth, 2015
Methane conversion factor	2008	0	Wirth, 2015
Methane conversion factor	2009	0	Wirth, 2015
Methane conversion factor	2010	0	Wirth, 2015
Methane conversion factor	2011	0	Wirth, 2015
Methane conversion factor	2012	0	Wirth, 2015
Methane conversion factor	2013	0	Wirth, 2015
Methane conversion factor	2014	0	Wirth, 2015
Nitrogen excretion rate	2000	16,212 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	16,016 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,820 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	15,624 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	15,428 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	15,232 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	15,036 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	14,841 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	14,645 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0207	Wirth, 2015
Proportion in manure management system	2001	0.0282	Wirth, 2015
Proportion in manure management system	2002	0.011	Wirth, 2015
Proportion in manure management system	2003	0.0122	Wirth, 2015
Proportion in manure management system	2004	0.0118	Wirth, 2015
Proportion in manure management system	2005	0.0114	Wirth, 2015
Proportion in manure management system	2006	0.0517	Wirth, 2015
Proportion in manure management system	2007	0.0484	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015
Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015
Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2000	8.000E-03	TSD Manure Management
Runoff fraction	2001	8.000E-03	TSD Manure Management
Runoff fraction	2002	8.000E-03	TSD Manure Management
Runoff fraction	2003	8.000E-03	TSD Manure Management
Runoff fraction	2004	8.000E-03	TSD Manure Management
Runoff fraction	2005	8.000E-03	TSD Manure Management
Runoff fraction	2006	8.000E-03	TSD Manure Management
Runoff fraction	2007	8.000E-03	TSD Manure Management
Runoff fraction	2008	8.000E-03	TSD Manure Management
Runoff fraction	2009	8.000E-03	TSD Manure Management
Runoff fraction	2010	8.000E-03	TSD Manure Management
Runoff fraction	2011	8.000E-03	TSD Manure Management
Runoff fraction	2012	8.000E-03	TSD Manure Management
Runoff fraction	2013	8.000E-03	TSD Manure Management
Runoff fraction	2014	8.000E-03	TSD Manure Management
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	20,000 head	Wirth, 2015
Total population	2001	20,000 head	Wirth, 2015
Total population	2002	22,000 head	Wirth, 2015
Total population	2003	20,000 head	Wirth, 2015
Total population	2004	20,000 head	Wirth, 2015
Total population	2005	20,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	20,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015
Total population	2009	7,000 head	Wirth, 2015
Total population	2010	8,000 head	Wirth, 2015
Total population	2011	6,000 head	Wirth, 2015
Total population	2012	5,000 head	Wirth, 2015
Total population	2013	4,000 head	Wirth, 2015
Total population	2014	6,000 head	Wirth, 2015
Volatile solids production rate	2000	191 kg / year	Wirth, 2015
Volatile solids production rate	2001	192 kg / year	Wirth, 2015
Volatile solids production rate	2002	193 kg / year	Wirth, 2015
Volatile solids production rate	2003	194 kg / year	Wirth, 2015
Volatile solids production rate	2004	195 kg / year	Wirth, 2015
Volatile solids production rate	2005	195 kg / year	Wirth, 2015
Volatile solids production rate	2006	196 kg / year	Wirth, 2015
Volatile solids production rate	2007	197 kg / year	Wirth, 2015
Volatile solids production rate	2008	198 kg / year	Wirth, 2015
Volatile solids production rate	2009	198 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2010	198 kg / year	Wirth, 2015
Volatile solids production rate	2011	198 kg / year	Wirth, 2015
Volatile solids production rate	2012	198 kg / year	Wirth, 2015
Volatile solids production rate	2013	198 kg / year	Wirth, 2015
Volatile solids production rate	2014	198 kg / year	Wirth, 2015
Volatilized fraction	2000	0.58	TSD Manure Management
Volatilized fraction	2001	0.58	TSD Manure Management
Volatilized fraction	2002	0.58	TSD Manure Management
Volatilized fraction	2003	0.58	TSD Manure Management
Volatilized fraction	2004	0.58	TSD Manure Management
Volatilized fraction	2005	0.58	TSD Manure Management
Volatilized fraction	2006	0.58	TSD Manure Management
Volatilized fraction	2007	0.58	TSD Manure Management
Volatilized fraction	2008	0.58	TSD Manure Management
Volatilized fraction	2009	0.58	TSD Manure Management
Volatilized fraction	2010	0.58	TSD Manure Management
Volatilized fraction	2011	0.58	TSD Manure Management
Volatilized fraction	2012	0.58	TSD Manure Management
Volatilized fraction	2013	0.58	TSD Manure Management
Volatilized fraction	2014	0.58	TSD Manure Management

Activity = Livestock population - Swine - breeding - Anaerobic lagoon

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - breeding	2000	9,159 head	Calculation, see text
Livestock population - Swine - breeding	2001	8,909 head	Calculation, see text
Livestock population - Swine - breeding	2002	10,069 head	Calculation, see text
Livestock population - Swine - breeding	2003	9,259 head	Calculation, see text
Livestock population - Swine - breeding	2004	9,398 head	Calculation, see text
Livestock population - Swine - breeding	2005	9,537 head	Calculation, see text
Livestock population - Swine - breeding	2006	8,860 head	Calculation, see text
Livestock population - Swine - breeding	2007	9,057 head	Calculation, see text
Livestock population - Swine - breeding	2008	5,012 head	Calculation, see text
Livestock population - Swine - breeding	2009	3,509 head	Calculation, see text
Livestock population - Swine - breeding	2010	4,010 head	Calculation, see text
Livestock population - Swine - breeding	2011	3,007 head	Calculation, see text
Livestock population - Swine - breeding	2012	2,506 head	Calculation, see text
Livestock population - Swine - breeding	2013	2,005 head	Calculation, see text
Livestock population - Swine - breeding	2014	3,007 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2003	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.714	Wirth, 2015
Methane conversion factor	2001	0.738	Wirth, 2015
Methane conversion factor	2002	0.731	Wirth, 2015
Methane conversion factor	2003	0.742	Wirth, 2015
Methane conversion factor	2004	0.721	Wirth, 2015
Methane conversion factor	2005	0.731	Wirth, 2015
Methane conversion factor	2006	0.722	Wirth, 2015
Methane conversion factor	2007	0.72	Wirth, 2015
Methane conversion factor	2008	0.737	Wirth, 2015
Methane conversion factor	2009	0.729	Wirth, 2015
Methane conversion factor	2010	0.72	Wirth, 2015
Methane conversion factor	2011	0.72	Wirth, 2015
Methane conversion factor	2012	0.743	Wirth, 2015
Methane conversion factor	2013	0.724	Wirth, 2015
Methane conversion factor	2014	0.724	Wirth, 2015
Nitrogen excretion rate	2000	16,212 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	16,016 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,820 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	15,624 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	15,428 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	15,232 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	15,036 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	14,841 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	14,645 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.458	Wirth, 2015
Proportion in manure management system	2001	0.445	Wirth, 2015
Proportion in manure management system	2002	0.458	Wirth, 2015
Proportion in manure management system	2003	0.463	Wirth, 2015
Proportion in manure management system	2004	0.47	Wirth, 2015
Proportion in manure management system	2005	0.477	Wirth, 2015
Proportion in manure management system	2006	0.443	Wirth, 2015
Proportion in manure management system	2007	0.453	Wirth, 2015
Proportion in manure management system	2008	0.501	Wirth, 2015
Proportion in manure management system	2009	0.501	Wirth, 2015
Proportion in manure management system	2010	0.501	Wirth, 2015
Proportion in manure management system	2011	0.501	Wirth, 2015
Proportion in manure management system	2012	0.501	Wirth, 2015
Proportion in manure management system	2013	0.501	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2014	0.501	Wirth, 2015
Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	20,000 head	Wirth, 2015
Total population	2001	20,000 head	Wirth, 2015
Total population	2002	22,000 head	Wirth, 2015
Total population	2003	20,000 head	Wirth, 2015
Total population	2004	20,000 head	Wirth, 2015
Total population	2005	20,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	20,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2009	7,000 head	Wirth, 2015
Total population	2010	8,000 head	Wirth, 2015
Total population	2011	6,000 head	Wirth, 2015
Total population	2012	5,000 head	Wirth, 2015
Total population	2013	4,000 head	Wirth, 2015
Total population	2014	6,000 head	Wirth, 2015
Volatile solids production rate	2000	191 kg / year	Wirth, 2015
Volatile solids production rate	2001	192 kg / year	Wirth, 2015
Volatile solids production rate	2002	193 kg / year	Wirth, 2015
Volatile solids production rate	2003	194 kg / year	Wirth, 2015
Volatile solids production rate	2004	195 kg / year	Wirth, 2015
Volatile solids production rate	2005	195 kg / year	Wirth, 2015
Volatile solids production rate	2006	196 kg / year	Wirth, 2015
Volatile solids production rate	2007	197 kg / year	Wirth, 2015
Volatile solids production rate	2008	198 kg / year	Wirth, 2015
Volatile solids production rate	2009	198 kg / year	Wirth, 2015
Volatile solids production rate	2010	198 kg / year	Wirth, 2015
Volatile solids production rate	2011	198 kg / year	Wirth, 2015
Volatile solids production rate	2012	198 kg / year	Wirth, 2015
Volatile solids production rate	2013	198 kg / year	Wirth, 2015
Volatile solids production rate	2014	198 kg / year	Wirth, 2015
Volatilized fraction	2000	0.58	Wirth, 2015
Volatilized fraction	2001	0.58	Wirth, 2015
Volatilized fraction	2002	0.58	Wirth, 2015
Volatilized fraction	2003	0.58	Wirth, 2015
Volatilized fraction	2004	0.58	Wirth, 2015
Volatilized fraction	2005	0.58	Wirth, 2015
Volatilized fraction	2006	0.58	Wirth, 2015
Volatilized fraction	2007	0.58	Wirth, 2015
Volatilized fraction	2008	0.58	Wirth, 2015
Volatilized fraction	2009	0.58	Wirth, 2015
Volatilized fraction	2010	0.58	Wirth, 2015
Volatilized fraction	2011	0.58	Wirth, 2015
Volatilized fraction	2012	0.58	Wirth, 2015
Volatilized fraction	2013	0.58	Wirth, 2015
Volatilized fraction	2014	0.58	Wirth, 2015

Activity = Livestock population - Swine - breeding - Deep pit

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - breeding	2000	5,862 head	Calculation, see text
Livestock population - Swine - breeding	2001	5,819 head	Calculation, see text
Livestock population - Swine - breeding	2002	6,353 head	Calculation, see text
Livestock population - Swine - breeding	2003	5,794 head	Calculation, see text
Livestock population - Swine - breeding	2004	5,812 head	Calculation, see text
Livestock population - Swine - breeding	2005	5,831 head	Calculation, see text
Livestock population - Swine - breeding	2006	5,849 head	Calculation, see text
Livestock population - Swine - breeding	2007	5,868 head	Calculation, see text
Livestock population - Swine - breeding	2008	2,934 head	Calculation, see text
Livestock population - Swine - breeding	2009	2,054 head	Calculation, see text
Livestock population - Swine - breeding	2010	2,347 head	Calculation, see text
Livestock population - Swine - breeding	2011	1,760 head	Calculation, see text
Livestock population - Swine - breeding	2012	1,467 head	Calculation, see text
Livestock population - Swine - breeding	2013	1,174 head	Calculation, see text
Livestock population - Swine - breeding	2014	1,760 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	2.000E-03 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N2O emission factor	2002	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2003	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2004	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2005	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2006	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2007	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2008	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2009	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2010	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2011	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2012	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2013	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2014	2.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.298	Wirth, 2015
Methane conversion factor	2001	0.322	Wirth, 2015
Methane conversion factor	2002	0.31	Wirth, 2015
Methane conversion factor	2003	0.321	Wirth, 2015
Methane conversion factor	2004	0.306	Wirth, 2015
Methane conversion factor	2005	0.298	Wirth, 2015
Methane conversion factor	2006	0.306	Wirth, 2015
Methane conversion factor	2007	0.303	Wirth, 2015
Methane conversion factor	2008	0.31	Wirth, 2015
Methane conversion factor	2009	0.304	Wirth, 2015
Methane conversion factor	2010	0.28	Wirth, 2015
Methane conversion factor	2011	0.282	Wirth, 2015
Methane conversion factor	2012	0.31	Wirth, 2015
Methane conversion factor	2013	0.31	Wirth, 2015
Methane conversion factor	2014	0.31	Wirth, 2015
Nitrogen excretion rate	2000	16,212 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	16,016 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,820 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	15,624 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	15,428 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	15,232 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	15,036 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	14,841 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	14,645 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2013	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	14,645 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.293	Wirth, 2015
Proportion in manure management system	2001	0.291	Wirth, 2015
Proportion in manure management system	2002	0.289	Wirth, 2015
Proportion in manure management system	2003	0.29	Wirth, 2015
Proportion in manure management system	2004	0.291	Wirth, 2015
Proportion in manure management system	2005	0.292	Wirth, 2015
Proportion in manure management system	2006	0.292	Wirth, 2015
Proportion in manure management system	2007	0.293	Wirth, 2015
Proportion in manure management system	2008	0.293	Wirth, 2015
Proportion in manure management system	2009	0.293	Wirth, 2015
Proportion in manure management system	2010	0.293	Wirth, 2015
Proportion in manure management system	2011	0.293	Wirth, 2015
Proportion in manure management system	2012	0.293	Wirth, 2015
Proportion in manure management system	2013	0.293	Wirth, 2015
Proportion in manure management system	2014	0.293	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	20,000 head	Wirth, 2015
Total population	2001	20,000 head	Wirth, 2015
Total population	2002	22,000 head	Wirth, 2015
Total population	2003	20,000 head	Wirth, 2015
Total population	2004	20,000 head	Wirth, 2015
Total population	2005	20,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	20,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015
Total population	2009	7,000 head	Wirth, 2015
Total population	2010	8,000 head	Wirth, 2015
Total population	2011	6,000 head	Wirth, 2015
Total population	2012	5,000 head	Wirth, 2015
Total population	2013	4,000 head	Wirth, 2015
Total population	2014	6,000 head	Wirth, 2015
Volatile solids production rate	2000	191 kg / year	Wirth, 2015
Volatile solids production rate	2001	192 kg / year	Wirth, 2015
Volatile solids production rate	2002	193 kg / year	Wirth, 2015
Volatile solids production rate	2003	194 kg / year	Wirth, 2015
Volatile solids production rate	2004	195 kg / year	Wirth, 2015
Volatile solids production rate	2005	195 kg / year	Wirth, 2015
Volatile solids production rate	2006	196 kg / year	Wirth, 2015
Volatile solids production rate	2007	197 kg / year	Wirth, 2015
Volatile solids production rate	2008	198 kg / year	Wirth, 2015
Volatile solids production rate	2009	198 kg / year	Wirth, 2015
Volatile solids production rate	2010	198 kg / year	Wirth, 2015
Volatile solids production rate	2011	198 kg / year	Wirth, 2015
Volatile solids production rate	2012	198 kg / year	Wirth, 2015
Volatile solids production rate	2013	198 kg / year	Wirth, 2015
Volatile solids production rate	2014	198 kg / year	Wirth, 2015
Volatilized fraction	2000	0.34	Wirth, 2015
Volatilized fraction	2001	0.34	Wirth, 2015
Volatilized fraction	2002	0.34	Wirth, 2015
Volatilized fraction	2003	0.34	Wirth, 2015
Volatilized fraction	2004	0.34	Wirth, 2015
Volatilized fraction	2005	0.34	Wirth, 2015
Volatilized fraction	2006	0.34	Wirth, 2015
Volatilized fraction	2007	0.34	Wirth, 2015
Volatilized fraction	2008	0.34	Wirth, 2015
Volatilized fraction	2009	0.34	Wirth, 2015
Volatilized fraction	2010	0.34	Wirth, 2015
Volatilized fraction	2011	0.34	Wirth, 2015
Volatilized fraction	2012	0.34	Wirth, 2015
Volatilized fraction	2013	0.34	Wirth, 2015
Volatilized fraction	2014	0.34	Wirth, 2015

Activity = Livestock population - Swine - breeding - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - breeding	2000	1,523 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Swine - breeding	2001	1,519 head	Calculation, see text
Livestock population - Swine - breeding	2002	1,668 head	Calculation, see text
Livestock population - Swine - breeding	2003	1,493 head	Calculation, see text
Livestock population - Swine - breeding	2004	1,470 head	Calculation, see text
Livestock population - Swine - breeding	2005	1,447 head	Calculation, see text
Livestock population - Swine - breeding	2006	1,424 head	Calculation, see text
Livestock population - Swine - breeding	2007	1,401 head	Calculation, see text
Livestock population - Swine - breeding	2008	700 head	Calculation, see text
Livestock population - Swine - breeding	2009	490 head	Calculation, see text
Livestock population - Swine - breeding	2010	560 head	Calculation, see text
Livestock population - Swine - breeding	2011	420 head	Calculation, see text
Livestock population - Swine - breeding	2012	350 head	Calculation, see text
Livestock population - Swine - breeding	2013	280 head	Calculation, see text
Livestock population - Swine - breeding	2014	420 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.298	Wirth, 2015
Methane conversion factor	2001	0.322	Wirth, 2015
Methane conversion factor	2002	0.31	Wirth, 2015
Methane conversion factor	2003	0.321	Wirth, 2015
Methane conversion factor	2004	0.306	Wirth, 2015
Methane conversion factor	2005	0.298	Wirth, 2015
Methane conversion factor	2006	0.306	Wirth, 2015
Methane conversion factor	2007	0.303	Wirth, 2015
Methane conversion factor	2008	0.31	Wirth, 2015
Methane conversion factor	2009	0.304	Wirth, 2015
Methane conversion factor	2010	0.28	Wirth, 2015
Methane conversion factor	2011	0.282	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2012	0.31	Wirth, 2015
Methane conversion factor	2013	0.31	Wirth, 2015
Methane conversion factor	2014	0.31	Wirth, 2015
Nitrogen excretion rate	2000	16,212 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	16,016 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,820 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	15,624 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	15,428 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	15,232 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	15,036 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	14,841 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	14,645 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0761	Wirth, 2015
Proportion in manure management system	2001	0.076	Wirth, 2015
Proportion in manure management system	2002	0.0758	Wirth, 2015
Proportion in manure management system	2003	0.0746	Wirth, 2015
Proportion in manure management system	2004	0.0735	Wirth, 2015
Proportion in manure management system	2005	0.0723	Wirth, 2015
Proportion in manure management system	2006	0.0712	Wirth, 2015
Proportion in manure management system	2007	0.07	Wirth, 2015
Proportion in manure management system	2008	0.07	Wirth, 2015
Proportion in manure management system	2009	0.07	Wirth, 2015
Proportion in manure management system	2010	0.07	Wirth, 2015
Proportion in manure management system	2011	0.07	Wirth, 2015
Proportion in manure management system	2012	0.07	Wirth, 2015
Proportion in manure management system	2013	0.07	Wirth, 2015
Proportion in manure management system	2014	0.07	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	20,000 head	Wirth, 2015
Total population	2001	20,000 head	Wirth, 2015
Total population	2002	22,000 head	Wirth, 2015
Total population	2003	20,000 head	Wirth, 2015
Total population	2004	20,000 head	Wirth, 2015
Total population	2005	20,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	20,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015
Total population	2009	7,000 head	Wirth, 2015
Total population	2010	8,000 head	Wirth, 2015
Total population	2011	6,000 head	Wirth, 2015
Total population	2012	5,000 head	Wirth, 2015
Total population	2013	4,000 head	Wirth, 2015
Total population	2014	6,000 head	Wirth, 2015
Volatile solids production rate	2000	191 kg / year	Wirth, 2015
Volatile solids production rate	2001	192 kg / year	Wirth, 2015
Volatile solids production rate	2002	193 kg / year	Wirth, 2015
Volatile solids production rate	2003	194 kg / year	Wirth, 2015
Volatile solids production rate	2004	195 kg / year	Wirth, 2015
Volatile solids production rate	2005	195 kg / year	Wirth, 2015
Volatile solids production rate	2006	196 kg / year	Wirth, 2015
Volatile solids production rate	2007	197 kg / year	Wirth, 2015
Volatile solids production rate	2008	198 kg / year	Wirth, 2015
Volatile solids production rate	2009	198 kg / year	Wirth, 2015
Volatile solids production rate	2010	198 kg / year	Wirth, 2015
Volatile solids production rate	2011	198 kg / year	Wirth, 2015
Volatile solids production rate	2012	198 kg / year	Wirth, 2015
Volatile solids production rate	2013	198 kg / year	Wirth, 2015
Volatile solids production rate	2014	198 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015

Activity = Livestock population - Swine - breeding - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - breeding	2000	2,373 head	Calculation, see text
Livestock population - Swine - breeding	2001	2,525 head	Calculation, see text
Livestock population - Swine - breeding	2002	2,944 head	Calculation, see text
Livestock population - Swine - breeding	2003	2,547 head	Calculation, see text
Livestock population - Swine - breeding	2004	2,417 head	Calculation, see text
Livestock population - Swine - breeding	2005	2,288 head	Calculation, see text
Livestock population - Swine - breeding	2006	2,159 head	Calculation, see text
Livestock population - Swine - breeding	2007	2,029 head	Calculation, see text
Livestock population - Swine - breeding	2008	1,015 head	Calculation, see text
Livestock population - Swine - breeding	2009	710 head	Calculation, see text
Livestock population - Swine - breeding	2010	812 head	Calculation, see text
Livestock population - Swine - breeding	2011	609 head	Calculation, see text
Livestock population - Swine - breeding	2012	507 head	Calculation, see text
Livestock population - Swine - breeding	2013	406 head	Calculation, see text
Livestock population - Swine - breeding	2014	609 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.01	Wirth, 2015
Methane conversion factor	2001	0.01	Wirth, 2015
Methane conversion factor	2002	0.01	Wirth, 2015
Methane conversion factor	2003	0.01	Wirth, 2015
Methane conversion factor	2004	0.01	Wirth, 2015
Methane conversion factor	2005	0.01	Wirth, 2015
Methane conversion factor	2006	0.01	Wirth, 2015
Methane conversion factor	2007	0.01	Wirth, 2015
Methane conversion factor	2008	0.01	Wirth, 2015
Methane conversion factor	2009	0.01	Wirth, 2015
Methane conversion factor	2010	0.01	Wirth, 2015
Methane conversion factor	2011	0.01	Wirth, 2015
Methane conversion factor	2012	0.01	Wirth, 2015
Methane conversion factor	2013	0.01	Wirth, 2015
Methane conversion factor	2014	0.01	Wirth, 2015
Nitrogen excretion rate	2000	16,212 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	16,016 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,820 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	15,624 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	15,428 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	15,232 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	15,036 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	14,841 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	14,645 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.119	Wirth, 2015
Proportion in manure management system	2001	0.126	Wirth, 2015
Proportion in manure management system	2002	0.134	Wirth, 2015
Proportion in manure management system	2003	0.127	Wirth, 2015
Proportion in manure management system	2004	0.121	Wirth, 2015
Proportion in manure management system	2005	0.114	Wirth, 2015
Proportion in manure management system	2006	0.108	Wirth, 2015
Proportion in manure management system	2007	0.101	Wirth, 2015
Proportion in manure management system	2008	0.101	Wirth, 2015
Proportion in manure management system	2009	0.101	Wirth, 2015
Proportion in manure management system	2010	0.101	Wirth, 2015
Proportion in manure management system	2011	0.101	Wirth, 2015
Proportion in manure management system	2012	0.101	Wirth, 2015
Proportion in manure management system	2013	0.101	Wirth, 2015
Proportion in manure management system	2014	0.101	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	20,000 head	Wirth, 2015
Total population	2001	20,000 head	Wirth, 2015
Total population	2002	22,000 head	Wirth, 2015
Total population	2003	20,000 head	Wirth, 2015
Total population	2004	20,000 head	Wirth, 2015
Total population	2005	20,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	20,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015
Total population	2009	7,000 head	Wirth, 2015
Total population	2010	8,000 head	Wirth, 2015
Total population	2011	6,000 head	Wirth, 2015
Total population	2012	5,000 head	Wirth, 2015
Total population	2013	4,000 head	Wirth, 2015
Total population	2014	6,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2000	191 kg / year	Wirth, 2015
Volatile solids production rate	2001	192 kg / year	Wirth, 2015
Volatile solids production rate	2002	193 kg / year	Wirth, 2015
Volatile solids production rate	2003	194 kg / year	Wirth, 2015
Volatile solids production rate	2004	195 kg / year	Wirth, 2015
Volatile solids production rate	2005	195 kg / year	Wirth, 2015
Volatile solids production rate	2006	196 kg / year	Wirth, 2015
Volatile solids production rate	2007	197 kg / year	Wirth, 2015
Volatile solids production rate	2008	198 kg / year	Wirth, 2015
Volatile solids production rate	2009	198 kg / year	Wirth, 2015
Volatile solids production rate	2010	198 kg / year	Wirth, 2015
Volatile solids production rate	2011	198 kg / year	Wirth, 2015
Volatile solids production rate	2012	198 kg / year	Wirth, 2015
Volatile solids production rate	2013	198 kg / year	Wirth, 2015
Volatile solids production rate	2014	198 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

Activity = Livestock population - Swine - breeding - Solid storage

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - breeding	2000	670 head	Calculation, see text
Livestock population - Swine - breeding	2001	664 head	Calculation, see text
Livestock population - Swine - breeding	2002	725 head	Calculation, see text
Livestock population - Swine - breeding	2003	663 head	Calculation, see text
Livestock population - Swine - breeding	2004	666 head	Calculation, see text
Livestock population - Swine - breeding	2005	670 head	Calculation, see text
Livestock population - Swine - breeding	2006	674 head	Calculation, see text
Livestock population - Swine - breeding	2007	678 head	Calculation, see text
Livestock population - Swine - breeding	2008	339 head	Calculation, see text
Livestock population - Swine - breeding	2009	237 head	Calculation, see text
Livestock population - Swine - breeding	2010	271 head	Calculation, see text
Livestock population - Swine - breeding	2011	203 head	Calculation, see text
Livestock population - Swine - breeding	2012	169 head	Calculation, see text
Livestock population - Swine - breeding	2013	136 head	Calculation, see text
Livestock population - Swine - breeding	2014	203 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.02	Wirth, 2015
Methane conversion factor	2001	0.02	Wirth, 2015
Methane conversion factor	2002	0.02	Wirth, 2015
Methane conversion factor	2003	0.02	Wirth, 2015
Methane conversion factor	2004	0.02	Wirth, 2015
Methane conversion factor	2005	0.02	Wirth, 2015
Methane conversion factor	2006	0.02	Wirth, 2015
Methane conversion factor	2007	0.02	Wirth, 2015
Methane conversion factor	2008	0.02	Wirth, 2015
Methane conversion factor	2009	0.02	Wirth, 2015
Methane conversion factor	2010	0.02	Wirth, 2015
Methane conversion factor	2011	0.02	Wirth, 2015
Methane conversion factor	2012	0.02	Wirth, 2015
Methane conversion factor	2013	0.02	Wirth, 2015
Methane conversion factor	2014	0.02	Wirth, 2015
Nitrogen excretion rate	2000	16,212 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	16,016 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,820 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	15,624 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	15,428 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	15,232 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	15,036 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	14,841 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	14,645 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	14,645 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0335	Wirth, 2015
Proportion in manure management system	2001	0.0332	Wirth, 2015
Proportion in manure management system	2002	0.0329	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2003	0.0331	Wirth, 2015
Proportion in manure management system	2004	0.0333	Wirth, 2015
Proportion in manure management system	2005	0.0335	Wirth, 2015
Proportion in manure management system	2006	0.0337	Wirth, 2015
Proportion in manure management system	2007	0.0339	Wirth, 2015
Proportion in manure management system	2008	0.0339	Wirth, 2015
Proportion in manure management system	2009	0.0339	Wirth, 2015
Proportion in manure management system	2010	0.0339	Wirth, 2015
Proportion in manure management system	2011	0.0339	Wirth, 2015
Proportion in manure management system	2012	0.0339	Wirth, 2015
Proportion in manure management system	2013	0.0339	Wirth, 2015
Proportion in manure management system	2014	0.0339	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	20,000 head	Wirth, 2015
Total population	2001	20,000 head	Wirth, 2015
Total population	2002	22,000 head	Wirth, 2015
Total population	2003	20,000 head	Wirth, 2015
Total population	2004	20,000 head	Wirth, 2015
Total population	2005	20,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	20,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015
Total population	2009	7,000 head	Wirth, 2015
Total population	2010	8,000 head	Wirth, 2015
Total population	2011	6,000 head	Wirth, 2015
Total population	2012	5,000 head	Wirth, 2015
Total population	2013	4,000 head	Wirth, 2015
Total population	2014	6,000 head	Wirth, 2015
Volatile solids production rate	2000	191 kg / year	Wirth, 2015
Volatile solids production rate	2001	192 kg / year	Wirth, 2015
Volatile solids production rate	2002	193 kg / year	Wirth, 2015
Volatile solids production rate	2003	194 kg / year	Wirth, 2015
Volatile solids production rate	2004	195 kg / year	Wirth, 2015
Volatile solids production rate	2005	195 kg / year	Wirth, 2015
Volatile solids production rate	2006	196 kg / year	Wirth, 2015
Volatile solids production rate	2007	197 kg / year	Wirth, 2015
Volatile solids production rate	2008	198 kg / year	Wirth, 2015
Volatile solids production rate	2009	198 kg / year	Wirth, 2015
Volatile solids production rate	2010	198 kg / year	Wirth, 2015
Volatile solids production rate	2011	198 kg / year	Wirth, 2015
Volatile solids production rate	2012	198 kg / year	Wirth, 2015
Volatile solids production rate	2013	198 kg / year	Wirth, 2015
Volatile solids production rate	2014	198 kg / year	Wirth, 2015
Volatilized fraction	2000	0.45	Wirth, 2015
Volatilized fraction	2001	0.45	Wirth, 2015
Volatilized fraction	2002	0.45	Wirth, 2015
Volatilized fraction	2003	0.45	Wirth, 2015
Volatilized fraction	2004	0.45	Wirth, 2015
Volatilized fraction	2005	0.45	Wirth, 2015
Volatilized fraction	2006	0.45	Wirth, 2015
Volatilized fraction	2007	0.45	Wirth, 2015
Volatilized fraction	2008	0.45	Wirth, 2015
Volatilized fraction	2009	0.45	Wirth, 2015
Volatilized fraction	2010	0.45	Wirth, 2015
Volatilized fraction	2011	0.45	Wirth, 2015
Volatilized fraction	2012	0.45	Wirth, 2015
Volatilized fraction	2013	0.45	Wirth, 2015
Volatilized fraction	2014	0.45	Wirth, 2015

Activity = Livestock population - Swine - market < 50 lbs - Anaerobic digester

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market < 50 lbs	2000	661 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2001	986 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2002	429 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2003	428 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2004	377 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2005	455 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2006	2,069 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Swine - market < 50 lbs	2007	1,935 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2008	0 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2009	0 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2010	0 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2011	0 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2012	0 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2013	0 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2014	0 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2001	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2002	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2003	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2004	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2005	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2006	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2007	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2008	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2009	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2010	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2011	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2012	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2013	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2014	0 g / g	TSD Manure Management
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.239	Wirth, 2015
Methane conversion factor	2001	0.239	Wirth, 2015
Methane conversion factor	2002	0.239	Wirth, 2015
Methane conversion factor	2003	0.239	Wirth, 2015
Methane conversion factor	2004	0.239	Wirth, 2015
Methane conversion factor	2005	0.239	Wirth, 2015
Methane conversion factor	2006	0.239	Wirth, 2015
Methane conversion factor	2007	0.239	Wirth, 2015
Methane conversion factor	2008	0	Wirth, 2015
Methane conversion factor	2009	0	Wirth, 2015
Methane conversion factor	2010	0	Wirth, 2015
Methane conversion factor	2011	0	Wirth, 2015
Methane conversion factor	2012	0	Wirth, 2015
Methane conversion factor	2013	0	Wirth, 2015
Methane conversion factor	2014	0	Wirth, 2015
Nitrogen excretion rate	2000	3,355 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	3,482 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2002	3,609 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	3,735 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	3,862 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	3,989 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	4,115 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	4,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	4,368 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0207	Wirth, 2015
Proportion in manure management system	2001	0.0282	Wirth, 2015
Proportion in manure management system	2002	0.011	Wirth, 2015
Proportion in manure management system	2003	0.0122	Wirth, 2015
Proportion in manure management system	2004	0.0118	Wirth, 2015
Proportion in manure management system	2005	0.0114	Wirth, 2015
Proportion in manure management system	2006	0.0517	Wirth, 2015
Proportion in manure management system	2007	0.0484	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015
Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015
Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	TSD Manure Management
Runoff fraction	2001	8.000E-03	TSD Manure Management
Runoff fraction	2002	8.000E-03	TSD Manure Management
Runoff fraction	2003	8.000E-03	TSD Manure Management
Runoff fraction	2004	8.000E-03	TSD Manure Management
Runoff fraction	2005	8.000E-03	TSD Manure Management
Runoff fraction	2006	8.000E-03	TSD Manure Management
Runoff fraction	2007	8.000E-03	TSD Manure Management
Runoff fraction	2008	8.000E-03	TSD Manure Management
Runoff fraction	2009	8.000E-03	TSD Manure Management
Runoff fraction	2010	8.000E-03	TSD Manure Management
Runoff fraction	2011	8.000E-03	TSD Manure Management
Runoff fraction	2012	8.000E-03	TSD Manure Management

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2013	8.000E-03	TSD Manure Management
Runoff fraction	2014	8.000E-03	TSD Manure Management
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	32,000 head	Wirth, 2015
Total population	2001	35,000 head	Wirth, 2015
Total population	2002	39,000 head	Wirth, 2015
Total population	2003	35,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	40,000 head	Wirth, 2015
Total population	2006	40,000 head	Wirth, 2015
Total population	2007	40,000 head	Wirth, 2015
Total population	2008	23,000 head	Wirth, 2015
Total population	2009	26,000 head	Wirth, 2015
Total population	2010	32,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	28,000 head	Wirth, 2015
Total population	2013	24,000 head	Wirth, 2015
Total population	2014	31,000 head	Wirth, 2015
Volatile solids production rate	2000	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2001	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2002	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2003	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2004	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2005	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2006	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2007	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2008	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2009	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2010	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2011	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2012	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2013	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2014	41.8 kg / year	Wirth, 2015
Volatilized fraction	2000	0.58	TSD Manure Management
Volatilized fraction	2001	0.58	TSD Manure Management
Volatilized fraction	2002	0.58	TSD Manure Management
Volatilized fraction	2003	0.58	TSD Manure Management
Volatilized fraction	2004	0.58	TSD Manure Management
Volatilized fraction	2005	0.58	TSD Manure Management
Volatilized fraction	2006	0.58	TSD Manure Management
Volatilized fraction	2007	0.58	TSD Manure Management

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2008	0.58	TSD Manure Management
Volatilized fraction	2009	0.58	TSD Manure Management
Volatilized fraction	2010	0.58	TSD Manure Management
Volatilized fraction	2011	0.58	TSD Manure Management
Volatilized fraction	2012	0.58	TSD Manure Management
Volatilized fraction	2013	0.58	TSD Manure Management
Volatilized fraction	2014	0.58	TSD Manure Management
Activity = Livestock population - Swine - market < 50 lbs - Anaerobic lagoon			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market < 50 lbs	2000	14,654 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2001	15,591 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2002	17,849 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2003	16,204 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2004	15,037 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2005	19,073 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2006	17,720 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2007	18,114 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2008	11,528 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2009	13,032 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2010	16,039 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2011	13,032 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2012	14,034 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2013	12,029 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2014	15,538 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.711	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2001	0.734	Wirth, 2015
Methane conversion factor	2002	0.726	Wirth, 2015
Methane conversion factor	2003	0.737	Wirth, 2015
Methane conversion factor	2004	0.718	Wirth, 2015
Methane conversion factor	2005	0.727	Wirth, 2015
Methane conversion factor	2006	0.721	Wirth, 2015
Methane conversion factor	2007	0.72	Wirth, 2015
Methane conversion factor	2008	0.736	Wirth, 2015
Methane conversion factor	2009	0.729	Wirth, 2015
Methane conversion factor	2010	0.72	Wirth, 2015
Methane conversion factor	2011	0.72	Wirth, 2015
Methane conversion factor	2012	0.742	Wirth, 2015
Methane conversion factor	2013	0.723	Wirth, 2015
Methane conversion factor	2014	0.723	Wirth, 2015
Nitrogen excretion rate	2000	3,355 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	3,482 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	3,609 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	3,735 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	3,862 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	3,989 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	4,115 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	4,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	4,368 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.458	Wirth, 2015
Proportion in manure management system	2001	0.445	Wirth, 2015
Proportion in manure management system	2002	0.458	Wirth, 2015
Proportion in manure management system	2003	0.463	Wirth, 2015
Proportion in manure management system	2004	0.47	Wirth, 2015
Proportion in manure management system	2005	0.477	Wirth, 2015
Proportion in manure management system	2006	0.443	Wirth, 2015
Proportion in manure management system	2007	0.453	Wirth, 2015
Proportion in manure management system	2008	0.501	Wirth, 2015
Proportion in manure management system	2009	0.501	Wirth, 2015
Proportion in manure management system	2010	0.501	Wirth, 2015
Proportion in manure management system	2011	0.501	Wirth, 2015
Proportion in manure management system	2012	0.501	Wirth, 2015
Proportion in manure management system	2013	0.501	Wirth, 2015
Proportion in manure management system	2014	0.501	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	32,000 head	Wirth, 2015
Total population	2001	35,000 head	Wirth, 2015
Total population	2002	39,000 head	Wirth, 2015
Total population	2003	35,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	40,000 head	Wirth, 2015
Total population	2006	40,000 head	Wirth, 2015
Total population	2007	40,000 head	Wirth, 2015
Total population	2008	23,000 head	Wirth, 2015
Total population	2009	26,000 head	Wirth, 2015
Total population	2010	32,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	28,000 head	Wirth, 2015
Total population	2013	24,000 head	Wirth, 2015
Total population	2014	31,000 head	Wirth, 2015
Volatile solids production rate	2000	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2001	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2002	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2003	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2004	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2005	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2006	41.8 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

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Volatile solids production rate	2007	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2008	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2009	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2010	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2011	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2012	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2013	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2014	41.8 kg / year	Wirth, 2015
Volatilized fraction	2000	0.58	Wirth, 2015
Volatilized fraction	2001	0.58	Wirth, 2015
Volatilized fraction	2002	0.58	Wirth, 2015
Volatilized fraction	2003	0.58	Wirth, 2015
Volatilized fraction	2004	0.58	Wirth, 2015
Volatilized fraction	2005	0.58	Wirth, 2015
Volatilized fraction	2006	0.58	Wirth, 2015
Volatilized fraction	2007	0.58	Wirth, 2015
Volatilized fraction	2008	0.58	Wirth, 2015
Volatilized fraction	2009	0.58	Wirth, 2015
Volatilized fraction	2010	0.58	Wirth, 2015
Volatilized fraction	2011	0.58	Wirth, 2015
Volatilized fraction	2012	0.58	Wirth, 2015
Volatilized fraction	2013	0.58	Wirth, 2015
Volatilized fraction	2014	0.58	Wirth, 2015

Activity = Livestock population - Swine - market < 50 lbs - Deep pit

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market < 50 lbs	2000	9,380 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2001	10,183 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2002	11,262 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2003	10,140 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2004	9,300 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2005	11,662 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2006	11,698 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2007	11,735 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2008	6,748 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2009	7,628 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2010	9,388 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2011	7,628 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2012	8,215 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2013	7,041 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2014	9,095 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	2.000E-03 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2000	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.293	Wirth, 2015
Methane conversion factor	2001	0.314	Wirth, 2015
Methane conversion factor	2002	0.301	Wirth, 2015
Methane conversion factor	2003	0.313	Wirth, 2015
Methane conversion factor	2004	0.3	Wirth, 2015
Methane conversion factor	2005	0.293	Wirth, 2015
Methane conversion factor	2006	0.303	Wirth, 2015
Methane conversion factor	2007	0.302	Wirth, 2015
Methane conversion factor	2008	0.309	Wirth, 2015
Methane conversion factor	2009	0.303	Wirth, 2015
Methane conversion factor	2010	0.279	Wirth, 2015
Methane conversion factor	2011	0.281	Wirth, 2015
Methane conversion factor	2012	0.309	Wirth, 2015
Methane conversion factor	2013	0.309	Wirth, 2015
Methane conversion factor	2014	0.309	Wirth, 2015
Nitrogen excretion rate	2000	3,355 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	3,482 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	3,609 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	3,735 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	3,862 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	3,989 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	4,115 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	4,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	4,368 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.293	Wirth, 2015
Proportion in manure management system	2001	0.291	Wirth, 2015
Proportion in manure management system	2002	0.289	Wirth, 2015
Proportion in manure management system	2003	0.29	Wirth, 2015
Proportion in manure management system	2004	0.291	Wirth, 2015
Proportion in manure management system	2005	0.292	Wirth, 2015
Proportion in manure management system	2006	0.292	Wirth, 2015
Proportion in manure management system	2007	0.293	Wirth, 2015
Proportion in manure management system	2008	0.293	Wirth, 2015
Proportion in manure management system	2009	0.293	Wirth, 2015
Proportion in manure management system	2010	0.293	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2011	0.293	Wirth, 2015
Proportion in manure management system	2012	0.293	Wirth, 2015
Proportion in manure management system	2013	0.293	Wirth, 2015
Proportion in manure management system	2014	0.293	Wirth, 2015
Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	32,000 head	Wirth, 2015
Total population	2001	35,000 head	Wirth, 2015
Total population	2002	39,000 head	Wirth, 2015
Total population	2003	35,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	40,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2006	40,000 head	Wirth, 2015
Total population	2007	40,000 head	Wirth, 2015
Total population	2008	23,000 head	Wirth, 2015
Total population	2009	26,000 head	Wirth, 2015
Total population	2010	32,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	28,000 head	Wirth, 2015
Total population	2013	24,000 head	Wirth, 2015
Total population	2014	31,000 head	Wirth, 2015
Volatile solids production rate	2000	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2001	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2002	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2003	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2004	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2005	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2006	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2007	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2008	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2009	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2010	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2011	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2012	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2013	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2014	41.8 kg / year	Wirth, 2015
Volatilized fraction	2000	0.34	Wirth, 2015
Volatilized fraction	2001	0.34	Wirth, 2015
Volatilized fraction	2002	0.34	Wirth, 2015
Volatilized fraction	2003	0.34	Wirth, 2015
Volatilized fraction	2004	0.34	Wirth, 2015
Volatilized fraction	2005	0.34	Wirth, 2015
Volatilized fraction	2006	0.34	Wirth, 2015
Volatilized fraction	2007	0.34	Wirth, 2015
Volatilized fraction	2008	0.34	Wirth, 2015
Volatilized fraction	2009	0.34	Wirth, 2015
Volatilized fraction	2010	0.34	Wirth, 2015
Volatilized fraction	2011	0.34	Wirth, 2015
Volatilized fraction	2012	0.34	Wirth, 2015
Volatilized fraction	2013	0.34	Wirth, 2015
Volatilized fraction	2014	0.34	Wirth, 2015

Activity = Livestock population - Swine - market < 50 lbs - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market < 50 lbs	2000	2,436 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2001	2,659 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2002	2,956 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2003	2,613 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2004	2,352 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2005	2,894 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2006	2,847 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2007	2,801 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2008	1,611 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2009	1,821 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2010	2,241 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2011	1,821 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2012	1,961 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2013	1,681 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Swine - market < 50 lbs	2014	2,171 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.293	Wirth, 2015
Methane conversion factor	2001	0.314	Wirth, 2015
Methane conversion factor	2002	0.301	Wirth, 2015
Methane conversion factor	2003	0.313	Wirth, 2015
Methane conversion factor	2004	0.3	Wirth, 2015
Methane conversion factor	2005	0.293	Wirth, 2015
Methane conversion factor	2006	0.303	Wirth, 2015
Methane conversion factor	2007	0.302	Wirth, 2015
Methane conversion factor	2008	0.309	Wirth, 2015
Methane conversion factor	2009	0.303	Wirth, 2015
Methane conversion factor	2010	0.279	Wirth, 2015
Methane conversion factor	2011	0.281	Wirth, 2015
Methane conversion factor	2012	0.309	Wirth, 2015
Methane conversion factor	2013	0.309	Wirth, 2015
Methane conversion factor	2014	0.309	Wirth, 2015
Nitrogen excretion rate	2000	3,355 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	3,482 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	3,609 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	3,735 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	3,862 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	3,989 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	4,115 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	4,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	4,368 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2009	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	4,368 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0761	Wirth, 2015
Proportion in manure management system	2001	0.076	Wirth, 2015
Proportion in manure management system	2002	0.0758	Wirth, 2015
Proportion in manure management system	2003	0.0746	Wirth, 2015
Proportion in manure management system	2004	0.0735	Wirth, 2015
Proportion in manure management system	2005	0.0723	Wirth, 2015
Proportion in manure management system	2006	0.0712	Wirth, 2015
Proportion in manure management system	2007	0.07	Wirth, 2015
Proportion in manure management system	2008	0.07	Wirth, 2015
Proportion in manure management system	2009	0.07	Wirth, 2015
Proportion in manure management system	2010	0.07	Wirth, 2015
Proportion in manure management system	2011	0.07	Wirth, 2015
Proportion in manure management system	2012	0.07	Wirth, 2015
Proportion in manure management system	2013	0.07	Wirth, 2015
Proportion in manure management system	2014	0.07	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	32,000 head	Wirth, 2015
Total population	2001	35,000 head	Wirth, 2015
Total population	2002	39,000 head	Wirth, 2015
Total population	2003	35,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	40,000 head	Wirth, 2015
Total population	2006	40,000 head	Wirth, 2015
Total population	2007	40,000 head	Wirth, 2015
Total population	2008	23,000 head	Wirth, 2015
Total population	2009	26,000 head	Wirth, 2015
Total population	2010	32,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	28,000 head	Wirth, 2015
Total population	2013	24,000 head	Wirth, 2015
Total population	2014	31,000 head	Wirth, 2015
Volatile solids production rate	2000	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2001	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2002	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2003	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2004	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2005	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2006	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2007	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2008	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2009	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2010	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2011	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2012	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2013	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2014	41.8 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015

Activity = Livestock population - Swine - market < 50 lbs - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market < 50 lbs	2000	3,797 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2001	4,418 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2002	5,218 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2003	4,457 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2004	3,868 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2005	4,576 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2006	4,317 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2007	4,059 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2008	2,334 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2009	2,638 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2010	3,247 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2011	2,638 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2012	2,841 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2013	2,435 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2014	3,145 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.01	Wirth, 2015
Methane conversion factor	2001	0.01	Wirth, 2015
Methane conversion factor	2002	0.01	Wirth, 2015
Methane conversion factor	2003	0.01	Wirth, 2015
Methane conversion factor	2004	0.01	Wirth, 2015
Methane conversion factor	2005	0.01	Wirth, 2015
Methane conversion factor	2006	0.01	Wirth, 2015
Methane conversion factor	2007	0.01	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2008	0.01	Wirth, 2015
Methane conversion factor	2009	0.01	Wirth, 2015
Methane conversion factor	2010	0.01	Wirth, 2015
Methane conversion factor	2011	0.01	Wirth, 2015
Methane conversion factor	2012	0.01	Wirth, 2015
Methane conversion factor	2013	0.01	Wirth, 2015
Methane conversion factor	2014	0.01	Wirth, 2015
Nitrogen excretion rate	2000	3,355 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	3,482 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	3,609 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	3,735 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	3,862 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	3,989 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	4,115 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	4,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	4,368 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.119	Wirth, 2015
Proportion in manure management system	2001	0.126	Wirth, 2015
Proportion in manure management system	2002	0.134	Wirth, 2015
Proportion in manure management system	2003	0.127	Wirth, 2015
Proportion in manure management system	2004	0.121	Wirth, 2015
Proportion in manure management system	2005	0.114	Wirth, 2015
Proportion in manure management system	2006	0.108	Wirth, 2015
Proportion in manure management system	2007	0.101	Wirth, 2015
Proportion in manure management system	2008	0.101	Wirth, 2015
Proportion in manure management system	2009	0.101	Wirth, 2015
Proportion in manure management system	2010	0.101	Wirth, 2015
Proportion in manure management system	2011	0.101	Wirth, 2015
Proportion in manure management system	2012	0.101	Wirth, 2015
Proportion in manure management system	2013	0.101	Wirth, 2015
Proportion in manure management system	2014	0.101	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	32,000 head	Wirth, 2015
Total population	2001	35,000 head	Wirth, 2015
Total population	2002	39,000 head	Wirth, 2015
Total population	2003	35,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	40,000 head	Wirth, 2015
Total population	2006	40,000 head	Wirth, 2015
Total population	2007	40,000 head	Wirth, 2015
Total population	2008	23,000 head	Wirth, 2015
Total population	2009	26,000 head	Wirth, 2015
Total population	2010	32,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	28,000 head	Wirth, 2015
Total population	2013	24,000 head	Wirth, 2015
Total population	2014	31,000 head	Wirth, 2015
Volatile solids production rate	2000	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2001	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2002	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2003	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2004	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2005	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2006	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2007	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2008	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2009	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2010	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2011	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2012	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2013	41.8 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

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Volatile solids production rate	2014	41.8 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

Activity = Livestock population - Swine - market < 50 lbs - Solid storage

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market < 50 lbs	2000	1,072 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2001	1,162 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2002	1,285 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2003	1,160 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2004	1,066 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2005	1,341 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2006	1,348 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2007	1,356 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2008	780 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2009	881 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2010	1,085 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2011	881 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2012	949 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2013	814 head	Calculation, see text
Livestock population - Swine - market < 50 lbs	2014	1,051 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.02	Wirth, 2015
Methane conversion factor	2001	0.02	Wirth, 2015
Methane conversion factor	2002	0.02	Wirth, 2015
Methane conversion factor	2003	0.02	Wirth, 2015
Methane conversion factor	2004	0.02	Wirth, 2015
Methane conversion factor	2005	0.02	Wirth, 2015
Methane conversion factor	2006	0.02	Wirth, 2015
Methane conversion factor	2007	0.02	Wirth, 2015
Methane conversion factor	2008	0.02	Wirth, 2015
Methane conversion factor	2009	0.02	Wirth, 2015
Methane conversion factor	2010	0.02	Wirth, 2015
Methane conversion factor	2011	0.02	Wirth, 2015
Methane conversion factor	2012	0.02	Wirth, 2015
Methane conversion factor	2013	0.02	Wirth, 2015
Methane conversion factor	2014	0.02	Wirth, 2015
Nitrogen excretion rate	2000	3,355 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	3,482 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	3,609 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	3,735 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	3,862 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	3,989 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	4,115 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	4,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	4,368 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	4,368 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0335	Wirth, 2015
Proportion in manure management system	2001	0.0332	Wirth, 2015
Proportion in manure management system	2002	0.0329	Wirth, 2015
Proportion in manure management system	2003	0.0331	Wirth, 2015
Proportion in manure management system	2004	0.0333	Wirth, 2015
Proportion in manure management system	2005	0.0335	Wirth, 2015
Proportion in manure management system	2006	0.0337	Wirth, 2015
Proportion in manure management system	2007	0.0339	Wirth, 2015
Proportion in manure management system	2008	0.0339	Wirth, 2015
Proportion in manure management system	2009	0.0339	Wirth, 2015
Proportion in manure management system	2010	0.0339	Wirth, 2015
Proportion in manure management system	2011	0.0339	Wirth, 2015
Proportion in manure management system	2012	0.0339	Wirth, 2015
Proportion in manure management system	2013	0.0339	Wirth, 2015
Proportion in manure management system	2014	0.0339	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	32,000 head	Wirth, 2015
Total population	2001	35,000 head	Wirth, 2015
Total population	2002	39,000 head	Wirth, 2015
Total population	2003	35,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	40,000 head	Wirth, 2015
Total population	2006	40,000 head	Wirth, 2015
Total population	2007	40,000 head	Wirth, 2015
Total population	2008	23,000 head	Wirth, 2015
Total population	2009	26,000 head	Wirth, 2015
Total population	2010	32,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	28,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2013	24,000 head	Wirth, 2015
Total population	2014	31,000 head	Wirth, 2015
Volatile solids production rate	2000	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2001	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2002	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2003	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2004	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2005	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2006	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2007	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2008	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2009	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2010	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2011	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2012	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2013	41.8 kg / year	Wirth, 2015
Volatile solids production rate	2014	41.8 kg / year	Wirth, 2015
Volatilized fraction	2000	0.45	Wirth, 2015
Volatilized fraction	2001	0.45	Wirth, 2015
Volatilized fraction	2002	0.45	Wirth, 2015
Volatilized fraction	2003	0.45	Wirth, 2015
Volatilized fraction	2004	0.45	Wirth, 2015
Volatilized fraction	2005	0.45	Wirth, 2015
Volatilized fraction	2006	0.45	Wirth, 2015
Volatilized fraction	2007	0.45	Wirth, 2015
Volatilized fraction	2008	0.45	Wirth, 2015
Volatilized fraction	2009	0.45	Wirth, 2015
Volatilized fraction	2010	0.45	Wirth, 2015
Volatilized fraction	2011	0.45	Wirth, 2015
Volatilized fraction	2012	0.45	Wirth, 2015
Volatilized fraction	2013	0.45	Wirth, 2015
Volatilized fraction	2014	0.45	Wirth, 2015

Activity = Livestock population - Swine - market 120-179 lbs - Anaerobic digester

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 120-179 lbs	2000	930 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2001	310 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2002	319 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2003	342 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2004	306 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2005	284 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2006	1,034 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2007	1,452 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2008	0 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2009	0 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2010	0 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2011	0 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2012	0 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2013	0 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2014	0 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2001	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2002	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2003	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2004	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2005	0 g / g	TSD Manure Management

Variables Used in the Emissions Estimation Equations

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Direct N as N ₂ O emission factor	2006	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2007	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2008	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2009	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2010	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2011	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2012	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2013	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2014	0 g / g	TSD Manure Management
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.239	Wirth, 2015
Methane conversion factor	2001	0.239	Wirth, 2015
Methane conversion factor	2002	0.239	Wirth, 2015
Methane conversion factor	2003	0.239	Wirth, 2015
Methane conversion factor	2004	0.239	Wirth, 2015
Methane conversion factor	2005	0.239	Wirth, 2015
Methane conversion factor	2006	0.239	Wirth, 2015
Methane conversion factor	2007	0.239	Wirth, 2015
Methane conversion factor	2008	0	Wirth, 2015
Methane conversion factor	2009	0	Wirth, 2015
Methane conversion factor	2010	0	Wirth, 2015
Methane conversion factor	2011	0	Wirth, 2015
Methane conversion factor	2012	0	Wirth, 2015
Methane conversion factor	2013	0	Wirth, 2015
Methane conversion factor	2014	0	Wirth, 2015
Nitrogen excretion rate	2000	11,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	11,642 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	11,890 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	12,138 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	12,386 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	12,633 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	12,881 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	13,129 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	13,376 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0207	Wirth, 2015

Variables Used in the Emissions Estimation Equations

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Proportion in manure management system	2001	0.0282	Wirth, 2015
Proportion in manure management system	2002	0.011	Wirth, 2015
Proportion in manure management system	2003	0.0122	Wirth, 2015
Proportion in manure management system	2004	0.0118	Wirth, 2015
Proportion in manure management system	2005	0.0114	Wirth, 2015
Proportion in manure management system	2006	0.0517	Wirth, 2015
Proportion in manure management system	2007	0.0484	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015
Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015
Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	TSD Manure Management
Runoff fraction	2001	8.000E-03	TSD Manure Management
Runoff fraction	2002	8.000E-03	TSD Manure Management
Runoff fraction	2003	8.000E-03	TSD Manure Management
Runoff fraction	2004	8.000E-03	TSD Manure Management
Runoff fraction	2005	8.000E-03	TSD Manure Management
Runoff fraction	2006	8.000E-03	TSD Manure Management
Runoff fraction	2007	8.000E-03	TSD Manure Management
Runoff fraction	2008	8.000E-03	TSD Manure Management
Runoff fraction	2009	8.000E-03	TSD Manure Management
Runoff fraction	2010	8.000E-03	TSD Manure Management
Runoff fraction	2011	8.000E-03	TSD Manure Management
Runoff fraction	2012	8.000E-03	TSD Manure Management
Runoff fraction	2013	8.000E-03	TSD Manure Management
Runoff fraction	2014	8.000E-03	TSD Manure Management
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	45,000 head	Wirth, 2015
Total population	2001	11,000 head	Wirth, 2015
Total population	2002	29,000 head	Wirth, 2015
Total population	2003	28,000 head	Wirth, 2015
Total population	2004	26,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	30,000 head	Wirth, 2015
Total population	2008	20,000 head	Wirth, 2015
Total population	2009	19,000 head	Wirth, 2015
Total population	2010	16,000 head	Wirth, 2015
Total population	2011	22,000 head	Wirth, 2015
Total population	2012	23,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	27,000 head	Wirth, 2015
Volatile solids production rate	2000	134 kg / year	Wirth, 2015
Volatile solids production rate	2001	134 kg / year	Wirth, 2015
Volatile solids production rate	2002	134 kg / year	Wirth, 2015
Volatile solids production rate	2003	134 kg / year	Wirth, 2015
Volatile solids production rate	2004	134 kg / year	Wirth, 2015
Volatile solids production rate	2005	134 kg / year	Wirth, 2015
Volatile solids production rate	2006	134 kg / year	Wirth, 2015
Volatile solids production rate	2007	134 kg / year	Wirth, 2015
Volatile solids production rate	2008	134 kg / year	Wirth, 2015
Volatile solids production rate	2009	134 kg / year	Wirth, 2015
Volatile solids production rate	2010	134 kg / year	Wirth, 2015
Volatile solids production rate	2011	134 kg / year	Wirth, 2015
Volatile solids production rate	2012	134 kg / year	Wirth, 2015
Volatile solids production rate	2013	134 kg / year	Wirth, 2015
Volatile solids production rate	2014	134 kg / year	Wirth, 2015
Volatilized fraction	2000	0.58	TSD Manure Management
Volatilized fraction	2001	0.58	TSD Manure Management
Volatilized fraction	2002	0.58	TSD Manure Management
Volatilized fraction	2003	0.58	TSD Manure Management
Volatilized fraction	2004	0.58	TSD Manure Management
Volatilized fraction	2005	0.58	TSD Manure Management
Volatilized fraction	2006	0.58	TSD Manure Management
Volatilized fraction	2007	0.58	TSD Manure Management
Volatilized fraction	2008	0.58	TSD Manure Management
Volatilized fraction	2009	0.58	TSD Manure Management
Volatilized fraction	2010	0.58	TSD Manure Management
Volatilized fraction	2011	0.58	TSD Manure Management
Volatilized fraction	2012	0.58	TSD Manure Management
Volatilized fraction	2013	0.58	TSD Manure Management
Volatilized fraction	2014	0.58	TSD Manure Management

Activity = Livestock population - Swine - market 120-179 lbs - Anaerobic lagoon

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 120-179 lbs	2000	20,608 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2001	4,900 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2002	13,273 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2003	12,963 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2004	12,218 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Swine - market 120-179 lbs	2005	11,921 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2006	8,860 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2007	13,585 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2008	10,025 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2009	9,523 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2010	8,020 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2011	11,027 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2012	11,528 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2013	11,027 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2014	13,533 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.711	Wirth, 2015
Methane conversion factor	2001	0.734	Wirth, 2015
Methane conversion factor	2002	0.726	Wirth, 2015
Methane conversion factor	2003	0.737	Wirth, 2015
Methane conversion factor	2004	0.718	Wirth, 2015
Methane conversion factor	2005	0.727	Wirth, 2015
Methane conversion factor	2006	0.721	Wirth, 2015
Methane conversion factor	2007	0.72	Wirth, 2015
Methane conversion factor	2008	0.736	Wirth, 2015
Methane conversion factor	2009	0.729	Wirth, 2015
Methane conversion factor	2010	0.72	Wirth, 2015
Methane conversion factor	2011	0.72	Wirth, 2015
Methane conversion factor	2012	0.742	Wirth, 2015
Methane conversion factor	2013	0.723	Wirth, 2015
Methane conversion factor	2014	0.723	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2000	11,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	11,642 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	11,890 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	12,138 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	12,386 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	12,633 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	12,881 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	13,129 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	13,376 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.458	Wirth, 2015
Proportion in manure management system	2001	0.445	Wirth, 2015
Proportion in manure management system	2002	0.458	Wirth, 2015
Proportion in manure management system	2003	0.463	Wirth, 2015
Proportion in manure management system	2004	0.47	Wirth, 2015
Proportion in manure management system	2005	0.477	Wirth, 2015
Proportion in manure management system	2006	0.443	Wirth, 2015
Proportion in manure management system	2007	0.453	Wirth, 2015
Proportion in manure management system	2008	0.501	Wirth, 2015
Proportion in manure management system	2009	0.501	Wirth, 2015
Proportion in manure management system	2010	0.501	Wirth, 2015
Proportion in manure management system	2011	0.501	Wirth, 2015
Proportion in manure management system	2012	0.501	Wirth, 2015
Proportion in manure management system	2013	0.501	Wirth, 2015
Proportion in manure management system	2014	0.501	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	45,000 head	Wirth, 2015
Total population	2001	11,000 head	Wirth, 2015
Total population	2002	29,000 head	Wirth, 2015
Total population	2003	28,000 head	Wirth, 2015
Total population	2004	26,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	30,000 head	Wirth, 2015
Total population	2008	20,000 head	Wirth, 2015
Total population	2009	19,000 head	Wirth, 2015
Total population	2010	16,000 head	Wirth, 2015
Total population	2011	22,000 head	Wirth, 2015
Total population	2012	23,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	27,000 head	Wirth, 2015
Volatile solids production rate	2000	134 kg / year	Wirth, 2015
Volatile solids production rate	2001	134 kg / year	Wirth, 2015
Volatile solids production rate	2002	134 kg / year	Wirth, 2015
Volatile solids production rate	2003	134 kg / year	Wirth, 2015
Volatile solids production rate	2004	134 kg / year	Wirth, 2015
Volatile solids production rate	2005	134 kg / year	Wirth, 2015
Volatile solids production rate	2006	134 kg / year	Wirth, 2015
Volatile solids production rate	2007	134 kg / year	Wirth, 2015
Volatile solids production rate	2008	134 kg / year	Wirth, 2015
Volatile solids production rate	2009	134 kg / year	Wirth, 2015
Volatile solids production rate	2010	134 kg / year	Wirth, 2015
Volatile solids production rate	2011	134 kg / year	Wirth, 2015
Volatile solids production rate	2012	134 kg / year	Wirth, 2015
Volatile solids production rate	2013	134 kg / year	Wirth, 2015
Volatile solids production rate	2014	134 kg / year	Wirth, 2015
Volatilized fraction	2000	0.58	Wirth, 2015
Volatilized fraction	2001	0.58	Wirth, 2015
Volatilized fraction	2002	0.58	Wirth, 2015
Volatilized fraction	2003	0.58	Wirth, 2015
Volatilized fraction	2004	0.58	Wirth, 2015
Volatilized fraction	2005	0.58	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2006	0.58	Wirth, 2015
Volatilized fraction	2007	0.58	Wirth, 2015
Volatilized fraction	2008	0.58	Wirth, 2015
Volatilized fraction	2009	0.58	Wirth, 2015
Volatilized fraction	2010	0.58	Wirth, 2015
Volatilized fraction	2011	0.58	Wirth, 2015
Volatilized fraction	2012	0.58	Wirth, 2015
Volatilized fraction	2013	0.58	Wirth, 2015
Volatilized fraction	2014	0.58	Wirth, 2015

Activity = Livestock population - Swine - market 120-179 lbs - Deep pit

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 120-179 lbs	2000	13,190 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2001	3,200 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2002	8,375 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2003	8,112 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2004	7,556 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2005	7,288 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2006	5,849 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2007	8,801 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2008	5,868 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2009	5,574 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2010	4,694 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2011	6,454 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2012	6,748 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2013	6,454 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2014	7,921 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	2.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.293	Wirth, 2015
Methane conversion factor	2001	0.314	Wirth, 2015
Methane conversion factor	2002	0.301	Wirth, 2015
Methane conversion factor	2003	0.313	Wirth, 2015
Methane conversion factor	2004	0.3	Wirth, 2015
Methane conversion factor	2005	0.293	Wirth, 2015
Methane conversion factor	2006	0.303	Wirth, 2015
Methane conversion factor	2007	0.302	Wirth, 2015
Methane conversion factor	2008	0.309	Wirth, 2015
Methane conversion factor	2009	0.303	Wirth, 2015
Methane conversion factor	2010	0.279	Wirth, 2015
Methane conversion factor	2011	0.281	Wirth, 2015
Methane conversion factor	2012	0.309	Wirth, 2015
Methane conversion factor	2013	0.309	Wirth, 2015
Methane conversion factor	2014	0.309	Wirth, 2015
Nitrogen excretion rate	2000	11,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	11,642 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	11,890 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	12,138 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	12,386 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	12,633 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	12,881 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	13,129 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	13,376 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.293	Wirth, 2015
Proportion in manure management system	2001	0.291	Wirth, 2015
Proportion in manure management system	2002	0.289	Wirth, 2015
Proportion in manure management system	2003	0.29	Wirth, 2015
Proportion in manure management system	2004	0.291	Wirth, 2015
Proportion in manure management system	2005	0.292	Wirth, 2015
Proportion in manure management system	2006	0.292	Wirth, 2015
Proportion in manure management system	2007	0.293	Wirth, 2015
Proportion in manure management system	2008	0.293	Wirth, 2015
Proportion in manure management system	2009	0.293	Wirth, 2015
Proportion in manure management system	2010	0.293	Wirth, 2015
Proportion in manure management system	2011	0.293	Wirth, 2015
Proportion in manure management system	2012	0.293	Wirth, 2015
Proportion in manure management system	2013	0.293	Wirth, 2015
Proportion in manure management system	2014	0.293	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	45,000 head	Wirth, 2015
Total population	2001	11,000 head	Wirth, 2015
Total population	2002	29,000 head	Wirth, 2015
Total population	2003	28,000 head	Wirth, 2015
Total population	2004	26,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	30,000 head	Wirth, 2015
Total population	2008	20,000 head	Wirth, 2015
Total population	2009	19,000 head	Wirth, 2015
Total population	2010	16,000 head	Wirth, 2015
Total population	2011	22,000 head	Wirth, 2015
Total population	2012	23,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	27,000 head	Wirth, 2015
Volatile solids production rate	2000	134 kg / year	Wirth, 2015
Volatile solids production rate	2001	134 kg / year	Wirth, 2015
Volatile solids production rate	2002	134 kg / year	Wirth, 2015
Volatile solids production rate	2003	134 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2004	134 kg / year	Wirth, 2015
Volatile solids production rate	2005	134 kg / year	Wirth, 2015
Volatile solids production rate	2006	134 kg / year	Wirth, 2015
Volatile solids production rate	2007	134 kg / year	Wirth, 2015
Volatile solids production rate	2008	134 kg / year	Wirth, 2015
Volatile solids production rate	2009	134 kg / year	Wirth, 2015
Volatile solids production rate	2010	134 kg / year	Wirth, 2015
Volatile solids production rate	2011	134 kg / year	Wirth, 2015
Volatile solids production rate	2012	134 kg / year	Wirth, 2015
Volatile solids production rate	2013	134 kg / year	Wirth, 2015
Volatile solids production rate	2014	134 kg / year	Wirth, 2015
Volatilized fraction	2000	0.34	Wirth, 2015
Volatilized fraction	2001	0.34	Wirth, 2015
Volatilized fraction	2002	0.34	Wirth, 2015
Volatilized fraction	2003	0.34	Wirth, 2015
Volatilized fraction	2004	0.34	Wirth, 2015
Volatilized fraction	2005	0.34	Wirth, 2015
Volatilized fraction	2006	0.34	Wirth, 2015
Volatilized fraction	2007	0.34	Wirth, 2015
Volatilized fraction	2008	0.34	Wirth, 2015
Volatilized fraction	2009	0.34	Wirth, 2015
Volatilized fraction	2010	0.34	Wirth, 2015
Volatilized fraction	2011	0.34	Wirth, 2015
Volatilized fraction	2012	0.34	Wirth, 2015
Volatilized fraction	2013	0.34	Wirth, 2015
Volatilized fraction	2014	0.34	Wirth, 2015

Activity = Livestock population - Swine - market 120-179 lbs - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 120-179 lbs	2000	3,426 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2001	836 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2002	2,198 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2003	2,090 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2004	1,911 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2005	1,809 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2006	1,424 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2007	2,101 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2008	1,401 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2009	1,331 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2010	1,121 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2011	1,541 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2012	1,611 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2013	1,541 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2014	1,891 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.293	Wirth, 2015
Methane conversion factor	2001	0.314	Wirth, 2015
Methane conversion factor	2002	0.301	Wirth, 2015
Methane conversion factor	2003	0.313	Wirth, 2015
Methane conversion factor	2004	0.3	Wirth, 2015
Methane conversion factor	2005	0.293	Wirth, 2015
Methane conversion factor	2006	0.303	Wirth, 2015
Methane conversion factor	2007	0.302	Wirth, 2015
Methane conversion factor	2008	0.309	Wirth, 2015
Methane conversion factor	2009	0.303	Wirth, 2015
Methane conversion factor	2010	0.279	Wirth, 2015
Methane conversion factor	2011	0.281	Wirth, 2015
Methane conversion factor	2012	0.309	Wirth, 2015
Methane conversion factor	2013	0.309	Wirth, 2015
Methane conversion factor	2014	0.309	Wirth, 2015
Nitrogen excretion rate	2000	11,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	11,642 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	11,890 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	12,138 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	12,386 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	12,633 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	12,881 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	13,129 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	13,376 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0761	Wirth, 2015
Proportion in manure management system	2001	0.076	Wirth, 2015
Proportion in manure management system	2002	0.0758	Wirth, 2015
Proportion in manure management system	2003	0.0746	Wirth, 2015
Proportion in manure management system	2004	0.0735	Wirth, 2015
Proportion in manure management system	2005	0.0723	Wirth, 2015
Proportion in manure management system	2006	0.0712	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2007	0.07	Wirth, 2015
Proportion in manure management system	2008	0.07	Wirth, 2015
Proportion in manure management system	2009	0.07	Wirth, 2015
Proportion in manure management system	2010	0.07	Wirth, 2015
Proportion in manure management system	2011	0.07	Wirth, 2015
Proportion in manure management system	2012	0.07	Wirth, 2015
Proportion in manure management system	2013	0.07	Wirth, 2015
Proportion in manure management system	2014	0.07	Wirth, 2015
Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	45,000 head	Wirth, 2015
Total population	2001	11,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2002	29,000 head	Wirth, 2015
Total population	2003	28,000 head	Wirth, 2015
Total population	2004	26,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	30,000 head	Wirth, 2015
Total population	2008	20,000 head	Wirth, 2015
Total population	2009	19,000 head	Wirth, 2015
Total population	2010	16,000 head	Wirth, 2015
Total population	2011	22,000 head	Wirth, 2015
Total population	2012	23,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	27,000 head	Wirth, 2015
Volatile solids production rate	2000	134 kg / year	Wirth, 2015
Volatile solids production rate	2001	134 kg / year	Wirth, 2015
Volatile solids production rate	2002	134 kg / year	Wirth, 2015
Volatile solids production rate	2003	134 kg / year	Wirth, 2015
Volatile solids production rate	2004	134 kg / year	Wirth, 2015
Volatile solids production rate	2005	134 kg / year	Wirth, 2015
Volatile solids production rate	2006	134 kg / year	Wirth, 2015
Volatile solids production rate	2007	134 kg / year	Wirth, 2015
Volatile solids production rate	2008	134 kg / year	Wirth, 2015
Volatile solids production rate	2009	134 kg / year	Wirth, 2015
Volatile solids production rate	2010	134 kg / year	Wirth, 2015
Volatile solids production rate	2011	134 kg / year	Wirth, 2015
Volatile solids production rate	2012	134 kg / year	Wirth, 2015
Volatile solids production rate	2013	134 kg / year	Wirth, 2015
Volatile solids production rate	2014	134 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015

Activity = Livestock population - Swine - market 120-179 lbs - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 120-179 lbs	2000	5,339 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2001	1,388 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2002	3,880 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2003	3,565 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2004	3,143 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2005	2,860 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2006	2,159 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2007	3,044 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2008	2,029 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2009	1,928 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Swine - market 120-179 lbs	2010	1,623 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2011	2,232 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2012	2,334 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2013	2,232 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2014	2,740 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.01	Wirth, 2015
Methane conversion factor	2001	0.01	Wirth, 2015
Methane conversion factor	2002	0.01	Wirth, 2015
Methane conversion factor	2003	0.01	Wirth, 2015
Methane conversion factor	2004	0.01	Wirth, 2015
Methane conversion factor	2005	0.01	Wirth, 2015
Methane conversion factor	2006	0.01	Wirth, 2015
Methane conversion factor	2007	0.01	Wirth, 2015
Methane conversion factor	2008	0.01	Wirth, 2015
Methane conversion factor	2009	0.01	Wirth, 2015
Methane conversion factor	2010	0.01	Wirth, 2015
Methane conversion factor	2011	0.01	Wirth, 2015
Methane conversion factor	2012	0.01	Wirth, 2015
Methane conversion factor	2013	0.01	Wirth, 2015
Methane conversion factor	2014	0.01	Wirth, 2015
Nitrogen excretion rate	2000	11,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	11,642 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	11,890 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	12,138 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	12,386 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2005	12,633 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	12,881 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	13,129 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	13,376 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.119	Wirth, 2015
Proportion in manure management system	2001	0.126	Wirth, 2015
Proportion in manure management system	2002	0.134	Wirth, 2015
Proportion in manure management system	2003	0.127	Wirth, 2015
Proportion in manure management system	2004	0.121	Wirth, 2015
Proportion in manure management system	2005	0.114	Wirth, 2015
Proportion in manure management system	2006	0.108	Wirth, 2015
Proportion in manure management system	2007	0.101	Wirth, 2015
Proportion in manure management system	2008	0.101	Wirth, 2015
Proportion in manure management system	2009	0.101	Wirth, 2015
Proportion in manure management system	2010	0.101	Wirth, 2015
Proportion in manure management system	2011	0.101	Wirth, 2015
Proportion in manure management system	2012	0.101	Wirth, 2015
Proportion in manure management system	2013	0.101	Wirth, 2015
Proportion in manure management system	2014	0.101	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	45,000 head	Wirth, 2015
Total population	2001	11,000 head	Wirth, 2015
Total population	2002	29,000 head	Wirth, 2015
Total population	2003	28,000 head	Wirth, 2015
Total population	2004	26,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	30,000 head	Wirth, 2015
Total population	2008	20,000 head	Wirth, 2015
Total population	2009	19,000 head	Wirth, 2015
Total population	2010	16,000 head	Wirth, 2015
Total population	2011	22,000 head	Wirth, 2015
Total population	2012	23,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	27,000 head	Wirth, 2015
Volatile solids production rate	2000	134 kg / year	Wirth, 2015
Volatile solids production rate	2001	134 kg / year	Wirth, 2015
Volatile solids production rate	2002	134 kg / year	Wirth, 2015
Volatile solids production rate	2003	134 kg / year	Wirth, 2015
Volatile solids production rate	2004	134 kg / year	Wirth, 2015
Volatile solids production rate	2005	134 kg / year	Wirth, 2015
Volatile solids production rate	2006	134 kg / year	Wirth, 2015
Volatile solids production rate	2007	134 kg / year	Wirth, 2015
Volatile solids production rate	2008	134 kg / year	Wirth, 2015
Volatile solids production rate	2009	134 kg / year	Wirth, 2015
Volatile solids production rate	2010	134 kg / year	Wirth, 2015
Volatile solids production rate	2011	134 kg / year	Wirth, 2015
Volatile solids production rate	2012	134 kg / year	Wirth, 2015
Volatile solids production rate	2013	134 kg / year	Wirth, 2015
Volatile solids production rate	2014	134 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

Activity = Livestock population - Swine - market 120-179 lbs - Solid storage

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 120-179 lbs	2000	1,507 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2001	365 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2002	955 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2003	928 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2004	866 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2005	838 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2006	674 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2007	1,017 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2008	678 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2009	644 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2010	542 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2011	746 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2012	780 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2013	746 head	Calculation, see text
Livestock population - Swine - market 120-179 lbs	2014	915 head	Calculation, see text
Direct N as N2O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.02	Wirth, 2015
Methane conversion factor	2001	0.02	Wirth, 2015
Methane conversion factor	2002	0.02	Wirth, 2015
Methane conversion factor	2003	0.02	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2004	0.02	Wirth, 2015
Methane conversion factor	2005	0.02	Wirth, 2015
Methane conversion factor	2006	0.02	Wirth, 2015
Methane conversion factor	2007	0.02	Wirth, 2015
Methane conversion factor	2008	0.02	Wirth, 2015
Methane conversion factor	2009	0.02	Wirth, 2015
Methane conversion factor	2010	0.02	Wirth, 2015
Methane conversion factor	2011	0.02	Wirth, 2015
Methane conversion factor	2012	0.02	Wirth, 2015
Methane conversion factor	2013	0.02	Wirth, 2015
Methane conversion factor	2014	0.02	Wirth, 2015
Nitrogen excretion rate	2000	11,395 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	11,642 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	11,890 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	12,138 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	12,386 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	12,633 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	12,881 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	13,129 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	13,376 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	13,376 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0335	Wirth, 2015
Proportion in manure management system	2001	0.0332	Wirth, 2015
Proportion in manure management system	2002	0.0329	Wirth, 2015
Proportion in manure management system	2003	0.0331	Wirth, 2015
Proportion in manure management system	2004	0.0333	Wirth, 2015
Proportion in manure management system	2005	0.0335	Wirth, 2015
Proportion in manure management system	2006	0.0337	Wirth, 2015
Proportion in manure management system	2007	0.0339	Wirth, 2015
Proportion in manure management system	2008	0.0339	Wirth, 2015
Proportion in manure management system	2009	0.0339	Wirth, 2015
Proportion in manure management system	2010	0.0339	Wirth, 2015
Proportion in manure management system	2011	0.0339	Wirth, 2015
Proportion in manure management system	2012	0.0339	Wirth, 2015
Proportion in manure management system	2013	0.0339	Wirth, 2015
Proportion in manure management system	2014	0.0339	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	45,000 head	Wirth, 2015
Total population	2001	11,000 head	Wirth, 2015
Total population	2002	29,000 head	Wirth, 2015
Total population	2003	28,000 head	Wirth, 2015
Total population	2004	26,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	20,000 head	Wirth, 2015
Total population	2007	30,000 head	Wirth, 2015
Total population	2008	20,000 head	Wirth, 2015
Total population	2009	19,000 head	Wirth, 2015
Total population	2010	16,000 head	Wirth, 2015
Total population	2011	22,000 head	Wirth, 2015
Total population	2012	23,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	27,000 head	Wirth, 2015
Volatile solids production rate	2000	134 kg / year	Wirth, 2015
Volatile solids production rate	2001	134 kg / year	Wirth, 2015
Volatile solids production rate	2002	134 kg / year	Wirth, 2015
Volatile solids production rate	2003	134 kg / year	Wirth, 2015
Volatile solids production rate	2004	134 kg / year	Wirth, 2015
Volatile solids production rate	2005	134 kg / year	Wirth, 2015
Volatile solids production rate	2006	134 kg / year	Wirth, 2015
Volatile solids production rate	2007	134 kg / year	Wirth, 2015
Volatile solids production rate	2008	134 kg / year	Wirth, 2015
Volatile solids production rate	2009	134 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2010	134 kg / year	Wirth, 2015
Volatile solids production rate	2011	134 kg / year	Wirth, 2015
Volatile solids production rate	2012	134 kg / year	Wirth, 2015
Volatile solids production rate	2013	134 kg / year	Wirth, 2015
Volatile solids production rate	2014	134 kg / year	Wirth, 2015
Volatilized fraction	2000	0.45	Wirth, 2015
Volatilized fraction	2001	0.45	Wirth, 2015
Volatilized fraction	2002	0.45	Wirth, 2015
Volatilized fraction	2003	0.45	Wirth, 2015
Volatilized fraction	2004	0.45	Wirth, 2015
Volatilized fraction	2005	0.45	Wirth, 2015
Volatilized fraction	2006	0.45	Wirth, 2015
Volatilized fraction	2007	0.45	Wirth, 2015
Volatilized fraction	2008	0.45	Wirth, 2015
Volatilized fraction	2009	0.45	Wirth, 2015
Volatilized fraction	2010	0.45	Wirth, 2015
Volatilized fraction	2011	0.45	Wirth, 2015
Volatilized fraction	2012	0.45	Wirth, 2015
Volatilized fraction	2013	0.45	Wirth, 2015
Volatilized fraction	2014	0.45	Wirth, 2015

Activity = Livestock population - Swine - market 180+ lbs - Anaerobic digester

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 180+ lbs	2000	207 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2001	535 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2002	308 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2003	330 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2004	354 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2005	284 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2006	1,293 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2007	1,355 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2008	0 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2009	0 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2010	0 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2011	0 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2012	0 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2013	0 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2014	0 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2001	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2002	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2003	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2004	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2005	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2006	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2007	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2008	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2009	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2010	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2011	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2012	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2013	0 g / g	TSD Manure Management
Direct N as N ₂ O emission factor	2014	0 g / g	TSD Manure Management
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2003	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.239	Wirth, 2015
Methane conversion factor	2001	0.239	Wirth, 2015
Methane conversion factor	2002	0.239	Wirth, 2015
Methane conversion factor	2003	0.239	Wirth, 2015
Methane conversion factor	2004	0.239	Wirth, 2015
Methane conversion factor	2005	0.239	Wirth, 2015
Methane conversion factor	2006	0.239	Wirth, 2015
Methane conversion factor	2007	0.239	Wirth, 2015
Methane conversion factor	2008	0	Wirth, 2015
Methane conversion factor	2009	0	Wirth, 2015
Methane conversion factor	2010	0	Wirth, 2015
Methane conversion factor	2011	0	Wirth, 2015
Methane conversion factor	2012	0	Wirth, 2015
Methane conversion factor	2013	0	Wirth, 2015
Methane conversion factor	2014	0	Wirth, 2015
Nitrogen excretion rate	2000	15,247 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	15,579 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,910 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	16,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	16,573 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	16,905 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	17,236 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	17,568 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	17,899 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0207	Wirth, 2015
Proportion in manure management system	2001	0.0282	Wirth, 2015
Proportion in manure management system	2002	0.011	Wirth, 2015
Proportion in manure management system	2003	0.0122	Wirth, 2015
Proportion in manure management system	2004	0.0118	Wirth, 2015
Proportion in manure management system	2005	0.0114	Wirth, 2015
Proportion in manure management system	2006	0.0517	Wirth, 2015
Proportion in manure management system	2007	0.0484	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015
Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	TSD Manure Management
Runoff fraction	2001	8.000E-03	TSD Manure Management
Runoff fraction	2002	8.000E-03	TSD Manure Management
Runoff fraction	2003	8.000E-03	TSD Manure Management
Runoff fraction	2004	8.000E-03	TSD Manure Management
Runoff fraction	2005	8.000E-03	TSD Manure Management
Runoff fraction	2006	8.000E-03	TSD Manure Management
Runoff fraction	2007	8.000E-03	TSD Manure Management
Runoff fraction	2008	8.000E-03	TSD Manure Management
Runoff fraction	2009	8.000E-03	TSD Manure Management
Runoff fraction	2010	8.000E-03	TSD Manure Management
Runoff fraction	2011	8.000E-03	TSD Manure Management
Runoff fraction	2012	8.000E-03	TSD Manure Management
Runoff fraction	2013	8.000E-03	TSD Manure Management
Runoff fraction	2014	8.000E-03	TSD Manure Management
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	10,000 head	Wirth, 2015
Total population	2001	19,000 head	Wirth, 2015
Total population	2002	28,000 head	Wirth, 2015
Total population	2003	27,000 head	Wirth, 2015
Total population	2004	30,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	25,000 head	Wirth, 2015
Total population	2007	28,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2009	30,000 head	Wirth, 2015
Total population	2010	23,000 head	Wirth, 2015
Total population	2011	25,000 head	Wirth, 2015
Total population	2012	24,000 head	Wirth, 2015
Total population	2013	23,000 head	Wirth, 2015
Total population	2014	21,000 head	Wirth, 2015
Volatile solids production rate	2000	179 kg / year	Wirth, 2015
Volatile solids production rate	2001	179 kg / year	Wirth, 2015
Volatile solids production rate	2002	179 kg / year	Wirth, 2015
Volatile solids production rate	2003	179 kg / year	Wirth, 2015
Volatile solids production rate	2004	179 kg / year	Wirth, 2015
Volatile solids production rate	2005	179 kg / year	Wirth, 2015
Volatile solids production rate	2006	179 kg / year	Wirth, 2015
Volatile solids production rate	2007	179 kg / year	Wirth, 2015
Volatile solids production rate	2008	179 kg / year	Wirth, 2015
Volatile solids production rate	2009	179 kg / year	Wirth, 2015
Volatile solids production rate	2010	179 kg / year	Wirth, 2015
Volatile solids production rate	2011	179 kg / year	Wirth, 2015
Volatile solids production rate	2012	179 kg / year	Wirth, 2015
Volatile solids production rate	2013	179 kg / year	Wirth, 2015
Volatile solids production rate	2014	179 kg / year	Wirth, 2015
Volatilized fraction	2000	0.58	TSD Manure Management
Volatilized fraction	2001	0.58	TSD Manure Management
Volatilized fraction	2002	0.58	TSD Manure Management
Volatilized fraction	2003	0.58	TSD Manure Management
Volatilized fraction	2004	0.58	TSD Manure Management
Volatilized fraction	2005	0.58	TSD Manure Management
Volatilized fraction	2006	0.58	TSD Manure Management
Volatilized fraction	2007	0.58	TSD Manure Management
Volatilized fraction	2008	0.58	TSD Manure Management
Volatilized fraction	2009	0.58	TSD Manure Management
Volatilized fraction	2010	0.58	TSD Manure Management
Volatilized fraction	2011	0.58	TSD Manure Management
Volatilized fraction	2012	0.58	TSD Manure Management
Volatilized fraction	2013	0.58	TSD Manure Management
Volatilized fraction	2014	0.58	TSD Manure Management

Activity = Livestock population - Swine - market 180+ lbs - Anaerobic lagoon

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 180+ lbs	2000	4,579 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2001	8,464 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2002	12,815 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2003	12,500 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2004	14,097 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2005	11,921 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2006	11,075 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2007	12,679 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2008	5,012 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2009	15,037 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2010	11,528 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2011	12,531 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2012	12,029 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2013	11,528 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2014	10,526 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.711	Wirth, 2015
Methane conversion factor	2001	0.734	Wirth, 2015
Methane conversion factor	2002	0.726	Wirth, 2015
Methane conversion factor	2003	0.737	Wirth, 2015
Methane conversion factor	2004	0.718	Wirth, 2015
Methane conversion factor	2005	0.727	Wirth, 2015
Methane conversion factor	2006	0.721	Wirth, 2015
Methane conversion factor	2007	0.72	Wirth, 2015
Methane conversion factor	2008	0.736	Wirth, 2015
Methane conversion factor	2009	0.729	Wirth, 2015
Methane conversion factor	2010	0.72	Wirth, 2015
Methane conversion factor	2011	0.72	Wirth, 2015
Methane conversion factor	2012	0.742	Wirth, 2015
Methane conversion factor	2013	0.723	Wirth, 2015
Methane conversion factor	2014	0.723	Wirth, 2015
Nitrogen excretion rate	2000	15,247 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	15,579 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,910 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	16,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	16,573 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	16,905 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	17,236 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	17,568 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	17,899 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2013	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	17,899 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.458	Wirth, 2015
Proportion in manure management system	2001	0.445	Wirth, 2015
Proportion in manure management system	2002	0.458	Wirth, 2015
Proportion in manure management system	2003	0.463	Wirth, 2015
Proportion in manure management system	2004	0.47	Wirth, 2015
Proportion in manure management system	2005	0.477	Wirth, 2015
Proportion in manure management system	2006	0.443	Wirth, 2015
Proportion in manure management system	2007	0.453	Wirth, 2015
Proportion in manure management system	2008	0.501	Wirth, 2015
Proportion in manure management system	2009	0.501	Wirth, 2015
Proportion in manure management system	2010	0.501	Wirth, 2015
Proportion in manure management system	2011	0.501	Wirth, 2015
Proportion in manure management system	2012	0.501	Wirth, 2015
Proportion in manure management system	2013	0.501	Wirth, 2015
Proportion in manure management system	2014	0.501	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	10,000 head	Wirth, 2015
Total population	2001	19,000 head	Wirth, 2015
Total population	2002	28,000 head	Wirth, 2015
Total population	2003	27,000 head	Wirth, 2015
Total population	2004	30,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	25,000 head	Wirth, 2015
Total population	2007	28,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015
Total population	2009	30,000 head	Wirth, 2015
Total population	2010	23,000 head	Wirth, 2015
Total population	2011	25,000 head	Wirth, 2015
Total population	2012	24,000 head	Wirth, 2015
Total population	2013	23,000 head	Wirth, 2015
Total population	2014	21,000 head	Wirth, 2015
Volatile solids production rate	2000	179 kg / year	Wirth, 2015
Volatile solids production rate	2001	179 kg / year	Wirth, 2015
Volatile solids production rate	2002	179 kg / year	Wirth, 2015
Volatile solids production rate	2003	179 kg / year	Wirth, 2015
Volatile solids production rate	2004	179 kg / year	Wirth, 2015
Volatile solids production rate	2005	179 kg / year	Wirth, 2015
Volatile solids production rate	2006	179 kg / year	Wirth, 2015
Volatile solids production rate	2007	179 kg / year	Wirth, 2015
Volatile solids production rate	2008	179 kg / year	Wirth, 2015
Volatile solids production rate	2009	179 kg / year	Wirth, 2015
Volatile solids production rate	2010	179 kg / year	Wirth, 2015
Volatile solids production rate	2011	179 kg / year	Wirth, 2015
Volatile solids production rate	2012	179 kg / year	Wirth, 2015
Volatile solids production rate	2013	179 kg / year	Wirth, 2015
Volatile solids production rate	2014	179 kg / year	Wirth, 2015
Volatilized fraction	2000	0.58	Wirth, 2015
Volatilized fraction	2001	0.58	Wirth, 2015
Volatilized fraction	2002	0.58	Wirth, 2015
Volatilized fraction	2003	0.58	Wirth, 2015
Volatilized fraction	2004	0.58	Wirth, 2015
Volatilized fraction	2005	0.58	Wirth, 2015
Volatilized fraction	2006	0.58	Wirth, 2015
Volatilized fraction	2007	0.58	Wirth, 2015
Volatilized fraction	2008	0.58	Wirth, 2015
Volatilized fraction	2009	0.58	Wirth, 2015
Volatilized fraction	2010	0.58	Wirth, 2015
Volatilized fraction	2011	0.58	Wirth, 2015
Volatilized fraction	2012	0.58	Wirth, 2015
Volatilized fraction	2013	0.58	Wirth, 2015
Volatilized fraction	2014	0.58	Wirth, 2015

Activity = Livestock population - Swine - market 180+ lbs - Deep pit

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 180+ lbs	2000	2,931 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Swine - market 180+ lbs	2001	5,528 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2002	8,086 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2003	7,822 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2004	8,719 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2005	7,288 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2006	7,311 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2007	8,215 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2008	2,934 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2009	8,801 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2010	6,748 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2011	7,334 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2012	7,041 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2013	6,748 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2014	6,161 head	Calculation, see text
Direct N as N2O emission factor	2000	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2001	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2002	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2003	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2004	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2005	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2006	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2007	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2008	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2009	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2010	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2011	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2012	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2013	2.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2014	2.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.293	Wirth, 2015
Methane conversion factor	2001	0.314	Wirth, 2015
Methane conversion factor	2002	0.301	Wirth, 2015
Methane conversion factor	2003	0.313	Wirth, 2015
Methane conversion factor	2004	0.3	Wirth, 2015
Methane conversion factor	2005	0.293	Wirth, 2015
Methane conversion factor	2006	0.303	Wirth, 2015
Methane conversion factor	2007	0.302	Wirth, 2015
Methane conversion factor	2008	0.309	Wirth, 2015
Methane conversion factor	2009	0.303	Wirth, 2015
Methane conversion factor	2010	0.279	Wirth, 2015
Methane conversion factor	2011	0.281	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2012	0.309	Wirth, 2015
Methane conversion factor	2013	0.309	Wirth, 2015
Methane conversion factor	2014	0.309	Wirth, 2015
Nitrogen excretion rate	2000	15,247 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	15,579 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,910 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	16,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	16,573 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	16,905 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	17,236 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	17,568 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	17,899 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.293	Wirth, 2015
Proportion in manure management system	2001	0.291	Wirth, 2015
Proportion in manure management system	2002	0.289	Wirth, 2015
Proportion in manure management system	2003	0.29	Wirth, 2015
Proportion in manure management system	2004	0.291	Wirth, 2015
Proportion in manure management system	2005	0.292	Wirth, 2015
Proportion in manure management system	2006	0.292	Wirth, 2015
Proportion in manure management system	2007	0.293	Wirth, 2015
Proportion in manure management system	2008	0.293	Wirth, 2015
Proportion in manure management system	2009	0.293	Wirth, 2015
Proportion in manure management system	2010	0.293	Wirth, 2015
Proportion in manure management system	2011	0.293	Wirth, 2015
Proportion in manure management system	2012	0.293	Wirth, 2015
Proportion in manure management system	2013	0.293	Wirth, 2015
Proportion in manure management system	2014	0.293	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	10,000 head	Wirth, 2015
Total population	2001	19,000 head	Wirth, 2015
Total population	2002	28,000 head	Wirth, 2015
Total population	2003	27,000 head	Wirth, 2015
Total population	2004	30,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	25,000 head	Wirth, 2015
Total population	2007	28,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015
Total population	2009	30,000 head	Wirth, 2015
Total population	2010	23,000 head	Wirth, 2015
Total population	2011	25,000 head	Wirth, 2015
Total population	2012	24,000 head	Wirth, 2015
Total population	2013	23,000 head	Wirth, 2015
Total population	2014	21,000 head	Wirth, 2015
Volatile solids production rate	2000	179 kg / year	Wirth, 2015
Volatile solids production rate	2001	179 kg / year	Wirth, 2015
Volatile solids production rate	2002	179 kg / year	Wirth, 2015
Volatile solids production rate	2003	179 kg / year	Wirth, 2015
Volatile solids production rate	2004	179 kg / year	Wirth, 2015
Volatile solids production rate	2005	179 kg / year	Wirth, 2015
Volatile solids production rate	2006	179 kg / year	Wirth, 2015
Volatile solids production rate	2007	179 kg / year	Wirth, 2015
Volatile solids production rate	2008	179 kg / year	Wirth, 2015
Volatile solids production rate	2009	179 kg / year	Wirth, 2015
Volatile solids production rate	2010	179 kg / year	Wirth, 2015
Volatile solids production rate	2011	179 kg / year	Wirth, 2015
Volatile solids production rate	2012	179 kg / year	Wirth, 2015
Volatile solids production rate	2013	179 kg / year	Wirth, 2015
Volatile solids production rate	2014	179 kg / year	Wirth, 2015
Volatilized fraction	2000	0.34	Wirth, 2015
Volatilized fraction	2001	0.34	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2002	0.34	Wirth, 2015
Volatilized fraction	2003	0.34	Wirth, 2015
Volatilized fraction	2004	0.34	Wirth, 2015
Volatilized fraction	2005	0.34	Wirth, 2015
Volatilized fraction	2006	0.34	Wirth, 2015
Volatilized fraction	2007	0.34	Wirth, 2015
Volatilized fraction	2008	0.34	Wirth, 2015
Volatilized fraction	2009	0.34	Wirth, 2015
Volatilized fraction	2010	0.34	Wirth, 2015
Volatilized fraction	2011	0.34	Wirth, 2015
Volatilized fraction	2012	0.34	Wirth, 2015
Volatilized fraction	2013	0.34	Wirth, 2015
Volatilized fraction	2014	0.34	Wirth, 2015

Activity = Livestock population - Swine - market 180+ lbs - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 180+ lbs	2000	761 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2001	1,443 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2002	2,122 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2003	2,015 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2004	2,205 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2005	1,809 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2006	1,780 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2007	1,961 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2008	700 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2009	2,101 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2010	1,611 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2011	1,751 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2012	1,681 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2013	1,611 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2014	1,471 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.293	Wirth, 2015
Methane conversion factor	2001	0.314	Wirth, 2015
Methane conversion factor	2002	0.301	Wirth, 2015
Methane conversion factor	2003	0.313	Wirth, 2015
Methane conversion factor	2004	0.3	Wirth, 2015
Methane conversion factor	2005	0.293	Wirth, 2015
Methane conversion factor	2006	0.303	Wirth, 2015
Methane conversion factor	2007	0.302	Wirth, 2015
Methane conversion factor	2008	0.309	Wirth, 2015
Methane conversion factor	2009	0.303	Wirth, 2015
Methane conversion factor	2010	0.279	Wirth, 2015
Methane conversion factor	2011	0.281	Wirth, 2015
Methane conversion factor	2012	0.309	Wirth, 2015
Methane conversion factor	2013	0.309	Wirth, 2015
Methane conversion factor	2014	0.309	Wirth, 2015
Nitrogen excretion rate	2000	15,247 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	15,579 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,910 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	16,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	16,573 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	16,905 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	17,236 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	17,568 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	17,899 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0761	Wirth, 2015
Proportion in manure management system	2001	0.076	Wirth, 2015
Proportion in manure management system	2002	0.0758	Wirth, 2015
Proportion in manure management system	2003	0.0746	Wirth, 2015
Proportion in manure management system	2004	0.0735	Wirth, 2015
Proportion in manure management system	2005	0.0723	Wirth, 2015
Proportion in manure management system	2006	0.0712	Wirth, 2015
Proportion in manure management system	2007	0.07	Wirth, 2015
Proportion in manure management system	2008	0.07	Wirth, 2015
Proportion in manure management system	2009	0.07	Wirth, 2015
Proportion in manure management system	2010	0.07	Wirth, 2015
Proportion in manure management system	2011	0.07	Wirth, 2015
Proportion in manure management system	2012	0.07	Wirth, 2015
Proportion in manure management system	2013	0.07	Wirth, 2015
Proportion in manure management system	2014	0.07	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	10,000 head	Wirth, 2015
Total population	2001	19,000 head	Wirth, 2015
Total population	2002	28,000 head	Wirth, 2015
Total population	2003	27,000 head	Wirth, 2015
Total population	2004	30,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	25,000 head	Wirth, 2015
Total population	2007	28,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015
Total population	2009	30,000 head	Wirth, 2015
Total population	2010	23,000 head	Wirth, 2015
Total population	2011	25,000 head	Wirth, 2015
Total population	2012	24,000 head	Wirth, 2015
Total population	2013	23,000 head	Wirth, 2015
Total population	2014	21,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2000	179 kg / year	Wirth, 2015
Volatile solids production rate	2001	179 kg / year	Wirth, 2015
Volatile solids production rate	2002	179 kg / year	Wirth, 2015
Volatile solids production rate	2003	179 kg / year	Wirth, 2015
Volatile solids production rate	2004	179 kg / year	Wirth, 2015
Volatile solids production rate	2005	179 kg / year	Wirth, 2015
Volatile solids production rate	2006	179 kg / year	Wirth, 2015
Volatile solids production rate	2007	179 kg / year	Wirth, 2015
Volatile solids production rate	2008	179 kg / year	Wirth, 2015
Volatile solids production rate	2009	179 kg / year	Wirth, 2015
Volatile solids production rate	2010	179 kg / year	Wirth, 2015
Volatile solids production rate	2011	179 kg / year	Wirth, 2015
Volatile solids production rate	2012	179 kg / year	Wirth, 2015
Volatile solids production rate	2013	179 kg / year	Wirth, 2015
Volatile solids production rate	2014	179 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015

Activity = Livestock population - Swine - market 180+ lbs - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 180+ lbs	2000	1,187 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2001	2,398 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2002	3,746 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2003	3,438 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2004	3,626 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2005	2,860 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2006	2,698 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2007	2,841 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2008	1,015 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2009	3,044 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2010	2,334 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2011	2,537 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2012	2,435 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2013	2,334 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2014	2,131 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

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Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.01	Wirth, 2015
Methane conversion factor	2001	0.01	Wirth, 2015
Methane conversion factor	2002	0.01	Wirth, 2015
Methane conversion factor	2003	0.01	Wirth, 2015
Methane conversion factor	2004	0.01	Wirth, 2015
Methane conversion factor	2005	0.01	Wirth, 2015
Methane conversion factor	2006	0.01	Wirth, 2015
Methane conversion factor	2007	0.01	Wirth, 2015
Methane conversion factor	2008	0.01	Wirth, 2015
Methane conversion factor	2009	0.01	Wirth, 2015
Methane conversion factor	2010	0.01	Wirth, 2015
Methane conversion factor	2011	0.01	Wirth, 2015
Methane conversion factor	2012	0.01	Wirth, 2015
Methane conversion factor	2013	0.01	Wirth, 2015
Methane conversion factor	2014	0.01	Wirth, 2015
Nitrogen excretion rate	2000	15,247 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	15,579 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	15,910 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	16,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	16,573 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	16,905 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	17,236 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	17,568 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	17,899 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.119	Wirth, 2015
Proportion in manure management system	2001	0.126	Wirth, 2015
Proportion in manure management system	2002	0.134	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2003	0.127	Wirth, 2015
Proportion in manure management system	2004	0.121	Wirth, 2015
Proportion in manure management system	2005	0.114	Wirth, 2015
Proportion in manure management system	2006	0.108	Wirth, 2015
Proportion in manure management system	2007	0.101	Wirth, 2015
Proportion in manure management system	2008	0.101	Wirth, 2015
Proportion in manure management system	2009	0.101	Wirth, 2015
Proportion in manure management system	2010	0.101	Wirth, 2015
Proportion in manure management system	2011	0.101	Wirth, 2015
Proportion in manure management system	2012	0.101	Wirth, 2015
Proportion in manure management system	2013	0.101	Wirth, 2015
Proportion in manure management system	2014	0.101	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	10,000 head	Wirth, 2015
Total population	2001	19,000 head	Wirth, 2015
Total population	2002	28,000 head	Wirth, 2015
Total population	2003	27,000 head	Wirth, 2015
Total population	2004	30,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	25,000 head	Wirth, 2015
Total population	2007	28,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015
Total population	2009	30,000 head	Wirth, 2015
Total population	2010	23,000 head	Wirth, 2015
Total population	2011	25,000 head	Wirth, 2015
Total population	2012	24,000 head	Wirth, 2015
Total population	2013	23,000 head	Wirth, 2015
Total population	2014	21,000 head	Wirth, 2015
Volatile solids production rate	2000	179 kg / year	Wirth, 2015
Volatile solids production rate	2001	179 kg / year	Wirth, 2015
Volatile solids production rate	2002	179 kg / year	Wirth, 2015
Volatile solids production rate	2003	179 kg / year	Wirth, 2015
Volatile solids production rate	2004	179 kg / year	Wirth, 2015
Volatile solids production rate	2005	179 kg / year	Wirth, 2015
Volatile solids production rate	2006	179 kg / year	Wirth, 2015
Volatile solids production rate	2007	179 kg / year	Wirth, 2015
Volatile solids production rate	2008	179 kg / year	Wirth, 2015
Volatile solids production rate	2009	179 kg / year	Wirth, 2015
Volatile solids production rate	2010	179 kg / year	Wirth, 2015
Volatile solids production rate	2011	179 kg / year	Wirth, 2015
Volatile solids production rate	2012	179 kg / year	Wirth, 2015
Volatile solids production rate	2013	179 kg / year	Wirth, 2015
Volatile solids production rate	2014	179 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

Activity = Livestock population - Swine - market 180+ lbs - Solid storage

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 180+ lbs	2000	335 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2001	631 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2002	922 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2003	895 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2004	1,000 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2005	838 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2006	843 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Swine - market 180+ lbs	2007	949 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2008	339 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2009	1,017 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2010	780 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2011	847 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2012	814 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2013	780 head	Calculation, see text
Livestock population - Swine - market 180+ lbs	2014	712 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.02	Wirth, 2015
Methane conversion factor	2001	0.02	Wirth, 2015
Methane conversion factor	2002	0.02	Wirth, 2015
Methane conversion factor	2003	0.02	Wirth, 2015
Methane conversion factor	2004	0.02	Wirth, 2015
Methane conversion factor	2005	0.02	Wirth, 2015
Methane conversion factor	2006	0.02	Wirth, 2015
Methane conversion factor	2007	0.02	Wirth, 2015
Methane conversion factor	2008	0.02	Wirth, 2015
Methane conversion factor	2009	0.02	Wirth, 2015
Methane conversion factor	2010	0.02	Wirth, 2015
Methane conversion factor	2011	0.02	Wirth, 2015
Methane conversion factor	2012	0.02	Wirth, 2015
Methane conversion factor	2013	0.02	Wirth, 2015
Methane conversion factor	2014	0.02	Wirth, 2015
Nitrogen excretion rate	2000	15,247 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	15,579 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2002	15,910 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	16,242 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	16,573 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	16,905 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	17,236 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	17,568 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	17,899 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	17,899 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0335	Wirth, 2015
Proportion in manure management system	2001	0.0332	Wirth, 2015
Proportion in manure management system	2002	0.0329	Wirth, 2015
Proportion in manure management system	2003	0.0331	Wirth, 2015
Proportion in manure management system	2004	0.0333	Wirth, 2015
Proportion in manure management system	2005	0.0335	Wirth, 2015
Proportion in manure management system	2006	0.0337	Wirth, 2015
Proportion in manure management system	2007	0.0339	Wirth, 2015
Proportion in manure management system	2008	0.0339	Wirth, 2015
Proportion in manure management system	2009	0.0339	Wirth, 2015
Proportion in manure management system	2010	0.0339	Wirth, 2015
Proportion in manure management system	2011	0.0339	Wirth, 2015
Proportion in manure management system	2012	0.0339	Wirth, 2015
Proportion in manure management system	2013	0.0339	Wirth, 2015
Proportion in manure management system	2014	0.0339	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	10,000 head	Wirth, 2015
Total population	2001	19,000 head	Wirth, 2015
Total population	2002	28,000 head	Wirth, 2015
Total population	2003	27,000 head	Wirth, 2015
Total population	2004	30,000 head	Wirth, 2015
Total population	2005	25,000 head	Wirth, 2015
Total population	2006	25,000 head	Wirth, 2015
Total population	2007	28,000 head	Wirth, 2015
Total population	2008	10,000 head	Wirth, 2015
Total population	2009	30,000 head	Wirth, 2015
Total population	2010	23,000 head	Wirth, 2015
Total population	2011	25,000 head	Wirth, 2015
Total population	2012	24,000 head	Wirth, 2015
Total population	2013	23,000 head	Wirth, 2015
Total population	2014	21,000 head	Wirth, 2015
Volatile solids production rate	2000	179 kg / year	Wirth, 2015
Volatile solids production rate	2001	179 kg / year	Wirth, 2015
Volatile solids production rate	2002	179 kg / year	Wirth, 2015
Volatile solids production rate	2003	179 kg / year	Wirth, 2015
Volatile solids production rate	2004	179 kg / year	Wirth, 2015
Volatile solids production rate	2005	179 kg / year	Wirth, 2015
Volatile solids production rate	2006	179 kg / year	Wirth, 2015
Volatile solids production rate	2007	179 kg / year	Wirth, 2015
Volatile solids production rate	2008	179 kg / year	Wirth, 2015
Volatile solids production rate	2009	179 kg / year	Wirth, 2015
Volatile solids production rate	2010	179 kg / year	Wirth, 2015
Volatile solids production rate	2011	179 kg / year	Wirth, 2015
Volatile solids production rate	2012	179 kg / year	Wirth, 2015
Volatile solids production rate	2013	179 kg / year	Wirth, 2015
Volatile solids production rate	2014	179 kg / year	Wirth, 2015
Volatilized fraction	2000	0.45	Wirth, 2015
Volatilized fraction	2001	0.45	Wirth, 2015
Volatilized fraction	2002	0.45	Wirth, 2015
Volatilized fraction	2003	0.45	Wirth, 2015
Volatilized fraction	2004	0.45	Wirth, 2015
Volatilized fraction	2005	0.45	Wirth, 2015
Volatilized fraction	2006	0.45	Wirth, 2015
Volatilized fraction	2007	0.45	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatileized fraction	2008	0.45	Wirth, 2015
Volatileized fraction	2009	0.45	Wirth, 2015
Volatileized fraction	2010	0.45	Wirth, 2015
Volatileized fraction	2011	0.45	Wirth, 2015
Volatileized fraction	2012	0.45	Wirth, 2015
Volatileized fraction	2013	0.45	Wirth, 2015
Volatileized fraction	2014	0.45	Wirth, 2015

Activity = Livestock population - Swine - market 50-119 lbs - Anaerobic digester

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 50-119 lbs	2000	889 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2001	705 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2002	352 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2003	306 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2004	377 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2005	398 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2006	2,069 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2007	1,790 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2008	0 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2009	0 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2010	0 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2011	0 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2012	0 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2013	0 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2014	0 head	Calculation, see text
Direct N as N2O emission factor	2000	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2001	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2002	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2003	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2004	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2005	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2006	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2007	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2008	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2009	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2010	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2011	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2012	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2013	0 g / g	TSD Manure Management
Direct N as N2O emission factor	2014	0 g / g	TSD Manure Management
Maximum methane production capacity	2000	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.239	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2001	0.239	Wirth, 2015
Methane conversion factor	2002	0.239	Wirth, 2015
Methane conversion factor	2003	0.239	Wirth, 2015
Methane conversion factor	2004	0.239	Wirth, 2015
Methane conversion factor	2005	0.239	Wirth, 2015
Methane conversion factor	2006	0.239	Wirth, 2015
Methane conversion factor	2007	0.239	Wirth, 2015
Methane conversion factor	2008	0	Wirth, 2015
Methane conversion factor	2009	0	Wirth, 2015
Methane conversion factor	2010	0	Wirth, 2015
Methane conversion factor	2011	0	Wirth, 2015
Methane conversion factor	2012	0	Wirth, 2015
Methane conversion factor	2013	0	Wirth, 2015
Methane conversion factor	2014	0	Wirth, 2015
Nitrogen excretion rate	2000	6,553 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	6,695 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	6,837 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	6,980 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	7,122 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	7,265 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	7,407 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	7,550 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	7,692 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0207	Wirth, 2015
Proportion in manure management system	2001	0.0282	Wirth, 2015
Proportion in manure management system	2002	0.011	Wirth, 2015
Proportion in manure management system	2003	0.0122	Wirth, 2015
Proportion in manure management system	2004	0.0118	Wirth, 2015
Proportion in manure management system	2005	0.0114	Wirth, 2015
Proportion in manure management system	2006	0.0517	Wirth, 2015
Proportion in manure management system	2007	0.0484	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015
Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015
Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	TSD Manure Management
Runoff fraction	2001	8.000E-03	TSD Manure Management
Runoff fraction	2002	8.000E-03	TSD Manure Management
Runoff fraction	2003	8.000E-03	TSD Manure Management
Runoff fraction	2004	8.000E-03	TSD Manure Management
Runoff fraction	2005	8.000E-03	TSD Manure Management
Runoff fraction	2006	8.000E-03	TSD Manure Management
Runoff fraction	2007	8.000E-03	TSD Manure Management
Runoff fraction	2008	8.000E-03	TSD Manure Management
Runoff fraction	2009	8.000E-03	TSD Manure Management
Runoff fraction	2010	8.000E-03	TSD Manure Management
Runoff fraction	2011	8.000E-03	TSD Manure Management
Runoff fraction	2012	8.000E-03	TSD Manure Management
Runoff fraction	2013	8.000E-03	TSD Manure Management
Runoff fraction	2014	8.000E-03	TSD Manure Management
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	43,000 head	Wirth, 2015
Total population	2001	25,000 head	Wirth, 2015
Total population	2002	32,000 head	Wirth, 2015
Total population	2003	25,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	35,000 head	Wirth, 2015
Total population	2006	40,000 head	Wirth, 2015
Total population	2007	37,000 head	Wirth, 2015
Total population	2008	17,000 head	Wirth, 2015
Total population	2009	18,000 head	Wirth, 2015
Total population	2010	26,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	25,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	25,000 head	Wirth, 2015
Volatile solids production rate	2000	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2001	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2002	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2003	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2004	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2005	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2006	76.9 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2007	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2008	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2009	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2010	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2011	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2012	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2013	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2014	76.9 kg / year	Wirth, 2015
Volatilized fraction	2000	0.58	TSD Manure Management
Volatilized fraction	2001	0.58	TSD Manure Management
Volatilized fraction	2002	0.58	TSD Manure Management
Volatilized fraction	2003	0.58	TSD Manure Management
Volatilized fraction	2004	0.58	TSD Manure Management
Volatilized fraction	2005	0.58	TSD Manure Management
Volatilized fraction	2006	0.58	TSD Manure Management
Volatilized fraction	2007	0.58	TSD Manure Management
Volatilized fraction	2008	0.58	TSD Manure Management
Volatilized fraction	2009	0.58	TSD Manure Management
Volatilized fraction	2010	0.58	TSD Manure Management
Volatilized fraction	2011	0.58	TSD Manure Management
Volatilized fraction	2012	0.58	TSD Manure Management
Volatilized fraction	2013	0.58	TSD Manure Management
Volatilized fraction	2014	0.58	TSD Manure Management

Activity = Livestock population - Swine - market 50-119 lbs - Anaerobic lagoon

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 50-119 lbs	2000	19,692 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2001	11,137 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2002	14,646 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2003	11,574 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2004	15,037 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2005	16,689 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2006	17,720 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2007	16,755 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2008	8,521 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2009	9,022 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2010	13,032 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2011	13,032 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2012	12,531 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2013	11,027 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2014	12,531 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2000	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.711	Wirth, 2015
Methane conversion factor	2001	0.734	Wirth, 2015
Methane conversion factor	2002	0.726	Wirth, 2015
Methane conversion factor	2003	0.737	Wirth, 2015
Methane conversion factor	2004	0.718	Wirth, 2015
Methane conversion factor	2005	0.727	Wirth, 2015
Methane conversion factor	2006	0.721	Wirth, 2015
Methane conversion factor	2007	0.72	Wirth, 2015
Methane conversion factor	2008	0.736	Wirth, 2015
Methane conversion factor	2009	0.729	Wirth, 2015
Methane conversion factor	2010	0.72	Wirth, 2015
Methane conversion factor	2011	0.72	Wirth, 2015
Methane conversion factor	2012	0.742	Wirth, 2015
Methane conversion factor	2013	0.723	Wirth, 2015
Methane conversion factor	2014	0.723	Wirth, 2015
Nitrogen excretion rate	2000	6,553 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	6,695 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	6,837 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	6,980 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	7,122 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	7,265 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	7,407 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	7,550 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	7,692 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.458	Wirth, 2015
Proportion in manure management system	2001	0.445	Wirth, 2015
Proportion in manure management system	2002	0.458	Wirth, 2015
Proportion in manure management system	2003	0.463	Wirth, 2015
Proportion in manure management system	2004	0.47	Wirth, 2015
Proportion in manure management system	2005	0.477	Wirth, 2015
Proportion in manure management system	2006	0.443	Wirth, 2015
Proportion in manure management system	2007	0.453	Wirth, 2015
Proportion in manure management system	2008	0.501	Wirth, 2015
Proportion in manure management system	2009	0.501	Wirth, 2015
Proportion in manure management system	2010	0.501	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2011	0.501	Wirth, 2015
Proportion in manure management system	2012	0.501	Wirth, 2015
Proportion in manure management system	2013	0.501	Wirth, 2015
Proportion in manure management system	2014	0.501	Wirth, 2015
Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	43,000 head	Wirth, 2015
Total population	2001	25,000 head	Wirth, 2015
Total population	2002	32,000 head	Wirth, 2015
Total population	2003	25,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	35,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2006	40,000 head	Wirth, 2015
Total population	2007	37,000 head	Wirth, 2015
Total population	2008	17,000 head	Wirth, 2015
Total population	2009	18,000 head	Wirth, 2015
Total population	2010	26,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	25,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	25,000 head	Wirth, 2015
Volatile solids production rate	2000	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2001	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2002	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2003	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2004	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2005	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2006	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2007	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2008	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2009	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2010	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2011	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2012	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2013	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2014	76.9 kg / year	Wirth, 2015
Volatilized fraction	2000	0.58	Wirth, 2015
Volatilized fraction	2001	0.58	Wirth, 2015
Volatilized fraction	2002	0.58	Wirth, 2015
Volatilized fraction	2003	0.58	Wirth, 2015
Volatilized fraction	2004	0.58	Wirth, 2015
Volatilized fraction	2005	0.58	Wirth, 2015
Volatilized fraction	2006	0.58	Wirth, 2015
Volatilized fraction	2007	0.58	Wirth, 2015
Volatilized fraction	2008	0.58	Wirth, 2015
Volatilized fraction	2009	0.58	Wirth, 2015
Volatilized fraction	2010	0.58	Wirth, 2015
Volatilized fraction	2011	0.58	Wirth, 2015
Volatilized fraction	2012	0.58	Wirth, 2015
Volatilized fraction	2013	0.58	Wirth, 2015
Volatilized fraction	2014	0.58	Wirth, 2015

Activity = Livestock population - Swine - market 50-119 lbs - Deep pit

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 50-119 lbs	2000	12,604 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2001	7,274 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2002	9,241 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2003	7,243 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2004	9,300 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2005	10,204 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2006	11,698 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2007	10,855 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2008	4,987 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2009	5,281 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2010	7,628 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2011	7,628 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2012	7,334 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2013	6,454 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Swine - market 50-119 lbs	2014	7,334 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	2.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	2.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.293	Wirth, 2015
Methane conversion factor	2001	0.314	Wirth, 2015
Methane conversion factor	2002	0.301	Wirth, 2015
Methane conversion factor	2003	0.313	Wirth, 2015
Methane conversion factor	2004	0.3	Wirth, 2015
Methane conversion factor	2005	0.293	Wirth, 2015
Methane conversion factor	2006	0.303	Wirth, 2015
Methane conversion factor	2007	0.302	Wirth, 2015
Methane conversion factor	2008	0.309	Wirth, 2015
Methane conversion factor	2009	0.303	Wirth, 2015
Methane conversion factor	2010	0.279	Wirth, 2015
Methane conversion factor	2011	0.281	Wirth, 2015
Methane conversion factor	2012	0.309	Wirth, 2015
Methane conversion factor	2013	0.309	Wirth, 2015
Methane conversion factor	2014	0.309	Wirth, 2015
Nitrogen excretion rate	2000	6,553 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	6,695 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	6,837 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	6,980 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	7,122 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	7,265 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	7,407 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	7,550 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	7,692 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2009	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	7,692 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.293	Wirth, 2015
Proportion in manure management system	2001	0.291	Wirth, 2015
Proportion in manure management system	2002	0.289	Wirth, 2015
Proportion in manure management system	2003	0.29	Wirth, 2015
Proportion in manure management system	2004	0.291	Wirth, 2015
Proportion in manure management system	2005	0.292	Wirth, 2015
Proportion in manure management system	2006	0.292	Wirth, 2015
Proportion in manure management system	2007	0.293	Wirth, 2015
Proportion in manure management system	2008	0.293	Wirth, 2015
Proportion in manure management system	2009	0.293	Wirth, 2015
Proportion in manure management system	2010	0.293	Wirth, 2015
Proportion in manure management system	2011	0.293	Wirth, 2015
Proportion in manure management system	2012	0.293	Wirth, 2015
Proportion in manure management system	2013	0.293	Wirth, 2015
Proportion in manure management system	2014	0.293	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	43,000 head	Wirth, 2015
Total population	2001	25,000 head	Wirth, 2015
Total population	2002	32,000 head	Wirth, 2015
Total population	2003	25,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	35,000 head	Wirth, 2015
Total population	2006	40,000 head	Wirth, 2015
Total population	2007	37,000 head	Wirth, 2015
Total population	2008	17,000 head	Wirth, 2015
Total population	2009	18,000 head	Wirth, 2015
Total population	2010	26,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	25,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	25,000 head	Wirth, 2015
Volatile solids production rate	2000	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2001	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2002	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2003	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2004	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2005	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2006	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2007	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2008	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2009	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2010	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2011	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2012	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2013	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2014	76.9 kg / year	Wirth, 2015
Volatilized fraction	2000	0.34	Wirth, 2015
Volatilized fraction	2001	0.34	Wirth, 2015
Volatilized fraction	2002	0.34	Wirth, 2015
Volatilized fraction	2003	0.34	Wirth, 2015
Volatilized fraction	2004	0.34	Wirth, 2015
Volatilized fraction	2005	0.34	Wirth, 2015
Volatilized fraction	2006	0.34	Wirth, 2015
Volatilized fraction	2007	0.34	Wirth, 2015
Volatilized fraction	2008	0.34	Wirth, 2015
Volatilized fraction	2009	0.34	Wirth, 2015
Volatilized fraction	2010	0.34	Wirth, 2015
Volatilized fraction	2011	0.34	Wirth, 2015
Volatilized fraction	2012	0.34	Wirth, 2015
Volatilized fraction	2013	0.34	Wirth, 2015
Volatilized fraction	2014	0.34	Wirth, 2015

Activity = Livestock population - Swine - market 50-119 lbs - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 50-119 lbs	2000	3,274 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2001	1,899 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2002	2,426 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2003	1,866 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2004	2,352 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2005	2,532 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2006	2,847 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2007	2,591 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2008	1,191 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2009	1,261 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2010	1,821 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2011	1,821 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2012	1,751 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2013	1,541 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2014	1,751 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.293	Wirth, 2015
Methane conversion factor	2001	0.314	Wirth, 2015
Methane conversion factor	2002	0.301	Wirth, 2015
Methane conversion factor	2003	0.313	Wirth, 2015
Methane conversion factor	2004	0.3	Wirth, 2015
Methane conversion factor	2005	0.293	Wirth, 2015
Methane conversion factor	2006	0.303	Wirth, 2015
Methane conversion factor	2007	0.302	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2008	0.309	Wirth, 2015
Methane conversion factor	2009	0.303	Wirth, 2015
Methane conversion factor	2010	0.279	Wirth, 2015
Methane conversion factor	2011	0.281	Wirth, 2015
Methane conversion factor	2012	0.309	Wirth, 2015
Methane conversion factor	2013	0.309	Wirth, 2015
Methane conversion factor	2014	0.309	Wirth, 2015
Nitrogen excretion rate	2000	6,553 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	6,695 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	6,837 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	6,980 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	7,122 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	7,265 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	7,407 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	7,550 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	7,692 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0761	Wirth, 2015
Proportion in manure management system	2001	0.076	Wirth, 2015
Proportion in manure management system	2002	0.0758	Wirth, 2015
Proportion in manure management system	2003	0.0746	Wirth, 2015
Proportion in manure management system	2004	0.0735	Wirth, 2015
Proportion in manure management system	2005	0.0723	Wirth, 2015
Proportion in manure management system	2006	0.0712	Wirth, 2015
Proportion in manure management system	2007	0.07	Wirth, 2015
Proportion in manure management system	2008	0.07	Wirth, 2015
Proportion in manure management system	2009	0.07	Wirth, 2015
Proportion in manure management system	2010	0.07	Wirth, 2015
Proportion in manure management system	2011	0.07	Wirth, 2015
Proportion in manure management system	2012	0.07	Wirth, 2015
Proportion in manure management system	2013	0.07	Wirth, 2015
Proportion in manure management system	2014	0.07	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	43,000 head	Wirth, 2015
Total population	2001	25,000 head	Wirth, 2015
Total population	2002	32,000 head	Wirth, 2015
Total population	2003	25,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	35,000 head	Wirth, 2015
Total population	2006	40,000 head	Wirth, 2015
Total population	2007	37,000 head	Wirth, 2015
Total population	2008	17,000 head	Wirth, 2015
Total population	2009	18,000 head	Wirth, 2015
Total population	2010	26,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	25,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	25,000 head	Wirth, 2015
Volatile solids production rate	2000	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2001	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2002	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2003	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2004	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2005	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2006	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2007	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2008	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2009	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2010	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2011	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2012	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2013	76.9 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2014	76.9 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015

Activity = Livestock population - Swine - market 50-119 lbs - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 50-119 lbs	2000	5,102 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2001	3,156 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2002	4,282 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2003	3,183 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2004	3,868 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2005	4,004 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2006	4,317 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2007	3,754 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2008	1,725 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2009	1,826 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2010	2,638 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2011	2,638 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2012	2,537 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2013	2,232 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2014	2,537 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2007	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.01	Wirth, 2015
Methane conversion factor	2001	0.01	Wirth, 2015
Methane conversion factor	2002	0.01	Wirth, 2015
Methane conversion factor	2003	0.01	Wirth, 2015
Methane conversion factor	2004	0.01	Wirth, 2015
Methane conversion factor	2005	0.01	Wirth, 2015
Methane conversion factor	2006	0.01	Wirth, 2015
Methane conversion factor	2007	0.01	Wirth, 2015
Methane conversion factor	2008	0.01	Wirth, 2015
Methane conversion factor	2009	0.01	Wirth, 2015
Methane conversion factor	2010	0.01	Wirth, 2015
Methane conversion factor	2011	0.01	Wirth, 2015
Methane conversion factor	2012	0.01	Wirth, 2015
Methane conversion factor	2013	0.01	Wirth, 2015
Methane conversion factor	2014	0.01	Wirth, 2015
Nitrogen excretion rate	2000	6,553 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	6,695 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	6,837 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	6,980 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	7,122 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	7,265 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	7,407 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	7,550 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	7,692 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.119	Wirth, 2015
Proportion in manure management system	2001	0.126	Wirth, 2015
Proportion in manure management system	2002	0.134	Wirth, 2015
Proportion in manure management system	2003	0.127	Wirth, 2015
Proportion in manure management system	2004	0.121	Wirth, 2015
Proportion in manure management system	2005	0.114	Wirth, 2015
Proportion in manure management system	2006	0.108	Wirth, 2015
Proportion in manure management system	2007	0.101	Wirth, 2015
Proportion in manure management system	2008	0.101	Wirth, 2015
Proportion in manure management system	2009	0.101	Wirth, 2015
Proportion in manure management system	2010	0.101	Wirth, 2015
Proportion in manure management system	2011	0.101	Wirth, 2015
Proportion in manure management system	2012	0.101	Wirth, 2015
Proportion in manure management system	2013	0.101	Wirth, 2015
Proportion in manure management system	2014	0.101	Wirth, 2015
Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	43,000 head	Wirth, 2015
Total population	2001	25,000 head	Wirth, 2015
Total population	2002	32,000 head	Wirth, 2015
Total population	2003	25,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	35,000 head	Wirth, 2015
Total population	2006	40,000 head	Wirth, 2015
Total population	2007	37,000 head	Wirth, 2015
Total population	2008	17,000 head	Wirth, 2015
Total population	2009	18,000 head	Wirth, 2015
Total population	2010	26,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	25,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2013	22,000 head	Wirth, 2015
Total population	2014	25,000 head	Wirth, 2015
Volatile solids production rate	2000	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2001	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2002	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2003	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2004	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2005	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2006	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2007	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2008	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2009	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2010	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2011	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2012	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2013	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2014	76.9 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

Activity = Livestock population - Swine - market 50-119 lbs - Solid storage

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Swine - market 50-119 lbs	2000	1,440 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2001	830 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2002	1,054 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2003	828 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2004	1,066 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2005	1,173 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2006	1,348 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2007	1,254 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2008	576 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2009	610 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2010	881 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2011	881 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2012	847 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2013	746 head	Calculation, see text
Livestock population - Swine - market 50-119 lbs	2014	847 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.48 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.48 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.02	Wirth, 2015
Methane conversion factor	2001	0.02	Wirth, 2015
Methane conversion factor	2002	0.02	Wirth, 2015
Methane conversion factor	2003	0.02	Wirth, 2015
Methane conversion factor	2004	0.02	Wirth, 2015
Methane conversion factor	2005	0.02	Wirth, 2015
Methane conversion factor	2006	0.02	Wirth, 2015
Methane conversion factor	2007	0.02	Wirth, 2015
Methane conversion factor	2008	0.02	Wirth, 2015
Methane conversion factor	2009	0.02	Wirth, 2015
Methane conversion factor	2010	0.02	Wirth, 2015
Methane conversion factor	2011	0.02	Wirth, 2015
Methane conversion factor	2012	0.02	Wirth, 2015
Methane conversion factor	2013	0.02	Wirth, 2015
Methane conversion factor	2014	0.02	Wirth, 2015
Nitrogen excretion rate	2000	6,553 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	6,695 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	6,837 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	6,980 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	7,122 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	7,265 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	7,407 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	7,550 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	7,692 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	7,692 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.0335	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2001	0.0332	Wirth, 2015
Proportion in manure management system	2002	0.0329	Wirth, 2015
Proportion in manure management system	2003	0.0331	Wirth, 2015
Proportion in manure management system	2004	0.0333	Wirth, 2015
Proportion in manure management system	2005	0.0335	Wirth, 2015
Proportion in manure management system	2006	0.0337	Wirth, 2015
Proportion in manure management system	2007	0.0339	Wirth, 2015
Proportion in manure management system	2008	0.0339	Wirth, 2015
Proportion in manure management system	2009	0.0339	Wirth, 2015
Proportion in manure management system	2010	0.0339	Wirth, 2015
Proportion in manure management system	2011	0.0339	Wirth, 2015
Proportion in manure management system	2012	0.0339	Wirth, 2015
Proportion in manure management system	2013	0.0339	Wirth, 2015
Proportion in manure management system	2014	0.0339	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	43,000 head	Wirth, 2015
Total population	2001	25,000 head	Wirth, 2015
Total population	2002	32,000 head	Wirth, 2015
Total population	2003	25,000 head	Wirth, 2015
Total population	2004	32,000 head	Wirth, 2015
Total population	2005	35,000 head	Wirth, 2015
Total population	2006	40,000 head	Wirth, 2015
Total population	2007	37,000 head	Wirth, 2015
Total population	2008	17,000 head	Wirth, 2015
Total population	2009	18,000 head	Wirth, 2015
Total population	2010	26,000 head	Wirth, 2015
Total population	2011	26,000 head	Wirth, 2015
Total population	2012	25,000 head	Wirth, 2015
Total population	2013	22,000 head	Wirth, 2015
Total population	2014	25,000 head	Wirth, 2015
Volatile solids production rate	2000	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2001	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2002	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2003	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2004	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2005	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2006	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2007	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2008	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2009	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2010	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2011	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2012	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2013	76.9 kg / year	Wirth, 2015
Volatile solids production rate	2014	76.9 kg / year	Wirth, 2015
Volatilized fraction	2000	0.45	Wirth, 2015
Volatilized fraction	2001	0.45	Wirth, 2015
Volatilized fraction	2002	0.45	Wirth, 2015
Volatilized fraction	2003	0.45	Wirth, 2015
Volatilized fraction	2004	0.45	Wirth, 2015
Volatilized fraction	2005	0.45	Wirth, 2015
Volatilized fraction	2006	0.45	Wirth, 2015
Volatilized fraction	2007	0.45	Wirth, 2015
Volatilized fraction	2008	0.45	Wirth, 2015
Volatilized fraction	2009	0.45	Wirth, 2015
Volatilized fraction	2010	0.45	Wirth, 2015
Volatilized fraction	2011	0.45	Wirth, 2015
Volatilized fraction	2012	0.45	Wirth, 2015
Volatilized fraction	2013	0.45	Wirth, 2015
Volatilized fraction	2014	0.45	Wirth, 2015

IPCC category = 3a2i — Livestock - Manure Management - Poultry

Activity = Livestock population - Broilers - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Broilers	2000	173,545 head	Calculation, see text
Livestock population - Broilers	2001	174,564 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Broilers	2002	184,159 head	Calculation, see text
Livestock population - Broilers	2003	176,727 head	Calculation, see text
Livestock population - Broilers	2004	167,525 head	Calculation, see text
Livestock population - Broilers	2005	156,818 head	Calculation, see text
Livestock population - Broilers	2006	173,111 head	Calculation, see text
Livestock population - Broilers	2007	154,182 head	Calculation, see text
Livestock population - Broilers	2008	142,579 head	Calculation, see text
Livestock population - Broilers	2009	146,127 head	Calculation, see text
Livestock population - Broilers	2010	148,073 head	Calculation, see text
Livestock population - Broilers	2011	108,242 head	Calculation, see text
Livestock population - Broilers	2012	100,273 head	Calculation, see text
Livestock population - Broilers	2013	99,927 head	Calculation, see text
Livestock population - Broilers	2014	99,364 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.36 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	346 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	342 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	339 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	335 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	331 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	327 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	323 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	319 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	316 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.01	Wirth, 2015
Proportion in manure management system	2001	0.01	Wirth, 2015
Proportion in manure management system	2002	0.01	Wirth, 2015
Proportion in manure management system	2003	0.01	Wirth, 2015
Proportion in manure management system	2004	0.01	Wirth, 2015
Proportion in manure management system	2005	0.01	Wirth, 2015
Proportion in manure management system	2006	0.01	Wirth, 2015
Proportion in manure management system	2007	0.01	Wirth, 2015
Proportion in manure management system	2008	0.01	Wirth, 2015
Proportion in manure management system	2009	0.01	Wirth, 2015
Proportion in manure management system	2010	0.01	Wirth, 2015
Proportion in manure management system	2011	0.01	Wirth, 2015
Proportion in manure management system	2012	0.01	Wirth, 2015
Proportion in manure management system	2013	0.01	Wirth, 2015
Proportion in manure management system	2014	0.01	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	17,354,546 head	Wirth, 2015
Total population	2001	17,456,364 head	Wirth, 2015
Total population	2002	18,415,909 head	Wirth, 2015
Total population	2003	17,672,727 head	Wirth, 2015
Total population	2004	16,752,525 head	Wirth, 2015
Total population	2005	15,681,818 head	Wirth, 2015
Total population	2006	17,311,111 head	Wirth, 2015
Total population	2007	15,418,182 head	Wirth, 2015
Total population	2008	14,257,851 head	Wirth, 2015
Total population	2009	14,612,727 head	Wirth, 2015
Total population	2010	14,807,273 head	Wirth, 2015
Total population	2011	10,824,242 head	Wirth, 2015
Total population	2012	10,027,273 head	Wirth, 2015
Total population	2013	9,992,727 head	Wirth, 2015
Total population	2014	9,936,364 head	Wirth, 2015
Volatile solids production rate	2000	5.15 kg / year	Wirth, 2015
Volatile solids production rate	2001	5.2 kg / year	Wirth, 2015
Volatile solids production rate	2002	5.26 kg / year	Wirth, 2015
Volatile solids production rate	2003	5.31 kg / year	Wirth, 2015
Volatile solids production rate	2004	5.37 kg / year	Wirth, 2015
Volatile solids production rate	2005	5.42 kg / year	Wirth, 2015
Volatile solids production rate	2006	5.48 kg / year	Wirth, 2015
Volatile solids production rate	2007	5.53 kg / year	Wirth, 2015
Volatile solids production rate	2008	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2009	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2010	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2011	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2012	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2013	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2014	5.59 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2003	0 Wirth, 2015
Volatilized fraction	2004	0 Wirth, 2015
Volatilized fraction	2005	0 Wirth, 2015
Volatilized fraction	2006	0 Wirth, 2015
Volatilized fraction	2007	0 Wirth, 2015
Volatilized fraction	2008	0 Wirth, 2015
Volatilized fraction	2009	0 Wirth, 2015
Volatilized fraction	2010	0 Wirth, 2015
Volatilized fraction	2011	0 Wirth, 2015
Volatilized fraction	2012	0 Wirth, 2015
Volatilized fraction	2013	0 Wirth, 2015
Volatilized fraction	2014	0 Wirth, 2015

Activity = Livestock population - Broilers - Poultry with bedding

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Broilers	2000	17,181,000 head	Calculation, see text
Livestock population - Broilers	2001	17,281,800 head	Calculation, see text
Livestock population - Broilers	2002	18,231,750 head	Calculation, see text
Livestock population - Broilers	2003	17,496,000 head	Calculation, see text
Livestock population - Broilers	2004	16,585,000 head	Calculation, see text
Livestock population - Broilers	2005	15,525,000 head	Calculation, see text
Livestock population - Broilers	2006	17,138,000 head	Calculation, see text
Livestock population - Broilers	2007	15,264,000 head	Calculation, see text
Livestock population - Broilers	2008	14,115,273 head	Calculation, see text
Livestock population - Broilers	2009	14,466,600 head	Calculation, see text
Livestock population - Broilers	2010	14,659,200 head	Calculation, see text
Livestock population - Broilers	2011	10,716,000 head	Calculation, see text
Livestock population - Broilers	2012	9,927,000 head	Calculation, see text
Livestock population - Broilers	2013	9,892,800 head	Calculation, see text
Livestock population - Broilers	2014	9,837,000 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	1.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.36 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.36 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2011	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.36 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	346 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	342 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	339 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	335 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	331 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	327 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	323 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	319 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	316 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	316 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.99	Wirth, 2015
Proportion in manure management system	2001	0.99	Wirth, 2015
Proportion in manure management system	2002	0.99	Wirth, 2015
Proportion in manure management system	2003	0.99	Wirth, 2015
Proportion in manure management system	2004	0.99	Wirth, 2015
Proportion in manure management system	2005	0.99	Wirth, 2015
Proportion in manure management system	2006	0.99	Wirth, 2015
Proportion in manure management system	2007	0.99	Wirth, 2015
Proportion in manure management system	2008	0.99	Wirth, 2015
Proportion in manure management system	2009	0.99	Wirth, 2015
Proportion in manure management system	2010	0.99	Wirth, 2015
Proportion in manure management system	2011	0.99	Wirth, 2015
Proportion in manure management system	2012	0.99	Wirth, 2015
Proportion in manure management system	2013	0.99	Wirth, 2015
Proportion in manure management system	2014	0.99	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	17,354,546 head	Wirth, 2015
Total population	2001	17,456,364 head	Wirth, 2015
Total population	2002	18,415,909 head	Wirth, 2015
Total population	2003	17,672,727 head	Wirth, 2015
Total population	2004	16,752,525 head	Wirth, 2015
Total population	2005	15,681,818 head	Wirth, 2015
Total population	2006	17,311,111 head	Wirth, 2015
Total population	2007	15,418,182 head	Wirth, 2015
Total population	2008	14,257,851 head	Wirth, 2015
Total population	2009	14,612,727 head	Wirth, 2015
Total population	2010	14,807,273 head	Wirth, 2015
Total population	2011	10,824,242 head	Wirth, 2015
Total population	2012	10,027,273 head	Wirth, 2015
Total population	2013	9,992,727 head	Wirth, 2015
Total population	2014	9,936,364 head	Wirth, 2015
Volatile solids production rate	2000	5.15 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2001	5.2 kg / year	Wirth, 2015
Volatile solids production rate	2002	5.26 kg / year	Wirth, 2015
Volatile solids production rate	2003	5.31 kg / year	Wirth, 2015
Volatile solids production rate	2004	5.37 kg / year	Wirth, 2015
Volatile solids production rate	2005	5.42 kg / year	Wirth, 2015
Volatile solids production rate	2006	5.48 kg / year	Wirth, 2015
Volatile solids production rate	2007	5.53 kg / year	Wirth, 2015
Volatile solids production rate	2008	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2009	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2010	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2011	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2012	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2013	5.59 kg / year	Wirth, 2015
Volatile solids production rate	2014	5.59 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015

Activity = Livestock population - Hens 1+ yr - Anaerobic lagoon

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Hens 1+ yr	2000	2,941,920 head	Calculation, see text
Livestock population - Hens 1+ yr	2001	2,902,800 head	Calculation, see text
Livestock population - Hens 1+ yr	2002	2,791,920 head	Calculation, see text
Livestock population - Hens 1+ yr	2003	2,512,440 head	Calculation, see text
Livestock population - Hens 1+ yr	2004	2,330,280 head	Calculation, see text
Livestock population - Hens 1+ yr	2005	2,349,840 head	Calculation, see text
Livestock population - Hens 1+ yr	2006	2,360,640 head	Calculation, see text
Livestock population - Hens 1+ yr	2007	2,516,520 head	Calculation, see text
Livestock population - Hens 1+ yr	2008	2,420,640 head	Calculation, see text
Livestock population - Hens 1+ yr	2009	2,362,320 head	Calculation, see text
Livestock population - Hens 1+ yr	2010	2,281,920 head	Calculation, see text
Livestock population - Hens 1+ yr	2011	2,375,880 head	Calculation, see text
Livestock population - Hens 1+ yr	2012	2,349,360 head	Calculation, see text
Livestock population - Hens 1+ yr	2013	2,040,360 head	Calculation, see text
Livestock population - Hens 1+ yr	2014	1,786,800 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.729	Wirth, 2015
Methane conversion factor	2001	0.749	Wirth, 2015
Methane conversion factor	2002	0.741	Wirth, 2015
Methane conversion factor	2003	0.753	Wirth, 2015
Methane conversion factor	2004	0.732	Wirth, 2015
Methane conversion factor	2005	0.744	Wirth, 2015
Methane conversion factor	2006	0.736	Wirth, 2015
Methane conversion factor	2007	0.736	Wirth, 2015
Methane conversion factor	2008	0.752	Wirth, 2015
Methane conversion factor	2009	0.743	Wirth, 2015
Methane conversion factor	2010	0.737	Wirth, 2015
Methane conversion factor	2011	0.737	Wirth, 2015
Methane conversion factor	2012	0.759	Wirth, 2015
Methane conversion factor	2013	0.738	Wirth, 2015
Methane conversion factor	2014	0.738	Wirth, 2015
Nitrogen excretion rate	2000	478 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	483 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	488 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	493 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	499 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	504 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	509 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	514 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	519 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.12	Wirth, 2015
Proportion in manure management system	2001	0.12	Wirth, 2015
Proportion in manure management system	2002	0.12	Wirth, 2015
Proportion in manure management system	2003	0.12	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2004	0.12	Wirth, 2015
Proportion in manure management system	2005	0.12	Wirth, 2015
Proportion in manure management system	2006	0.12	Wirth, 2015
Proportion in manure management system	2007	0.12	Wirth, 2015
Proportion in manure management system	2008	0.12	Wirth, 2015
Proportion in manure management system	2009	0.12	Wirth, 2015
Proportion in manure management system	2010	0.12	Wirth, 2015
Proportion in manure management system	2011	0.12	Wirth, 2015
Proportion in manure management system	2012	0.12	Wirth, 2015
Proportion in manure management system	2013	0.12	Wirth, 2015
Proportion in manure management system	2014	0.12	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2000	24,516,000 head	Wirth, 2015
Total population	2001	24,190,000 head	Wirth, 2015
Total population	2002	23,266,000 head	Wirth, 2015
Total population	2003	20,937,000 head	Wirth, 2015
Total population	2004	19,419,000 head	Wirth, 2015
Total population	2005	19,582,000 head	Wirth, 2015
Total population	2006	19,672,000 head	Wirth, 2015
Total population	2007	20,971,000 head	Wirth, 2015
Total population	2008	20,172,000 head	Wirth, 2015
Total population	2009	19,686,000 head	Wirth, 2015
Total population	2010	19,016,000 head	Wirth, 2015
Total population	2011	19,799,000 head	Wirth, 2015
Total population	2012	19,578,000 head	Wirth, 2015
Total population	2013	17,003,000 head	Wirth, 2015
Total population	2014	14,890,000 head	Wirth, 2015
Volatile solids production rate	2000	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2001	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2002	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2003	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2004	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2005	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2006	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2007	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2008	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2009	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2010	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2011	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2012	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2013	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2014	6.68 kg / year	Wirth, 2015
Volatilized fraction	2000	0.54	Wirth, 2015
Volatilized fraction	2001	0.54	Wirth, 2015
Volatilized fraction	2002	0.54	Wirth, 2015
Volatilized fraction	2003	0.54	Wirth, 2015
Volatilized fraction	2004	0.54	Wirth, 2015
Volatilized fraction	2005	0.54	Wirth, 2015
Volatilized fraction	2006	0.54	Wirth, 2015
Volatilized fraction	2007	0.54	Wirth, 2015
Volatilized fraction	2008	0.54	Wirth, 2015
Volatilized fraction	2009	0.54	Wirth, 2015
Volatilized fraction	2010	0.54	Wirth, 2015
Volatilized fraction	2011	0.54	Wirth, 2015
Volatilized fraction	2012	0.54	Wirth, 2015
Volatilized fraction	2013	0.54	Wirth, 2015
Volatilized fraction	2014	0.54	Wirth, 2015

Activity = Livestock population - Hens 1+ yr - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -		- Reference -
Livestock population - Hens 1+ yr	2000	0 head		Calculation, see text
Livestock population - Hens 1+ yr	2001	0 head		Calculation, see text
Livestock population - Hens 1+ yr	2002	0 head		Calculation, see text
Livestock population - Hens 1+ yr	2003	0 head		Calculation, see text
Livestock population - Hens 1+ yr	2004	0 head		Calculation, see text
Livestock population - Hens 1+ yr	2005	0 head		Calculation, see text
Livestock population - Hens 1+ yr	2006	0 head		Calculation, see text
Livestock population - Hens 1+ yr	2007	0 head		Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Hens 1+ yr	2008	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2009	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2010	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2011	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2012	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2013	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2014	0 head	Calculation, see text
Direct N as N2O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.331	Wirth, 2015
Methane conversion factor	2001	0.346	Wirth, 2015
Methane conversion factor	2002	0.333	Wirth, 2015
Methane conversion factor	2003	0.349	Wirth, 2015
Methane conversion factor	2004	0.329	Wirth, 2015
Methane conversion factor	2005	0.325	Wirth, 2015
Methane conversion factor	2006	0.336	Wirth, 2015
Methane conversion factor	2007	0.335	Wirth, 2015
Methane conversion factor	2008	0.342	Wirth, 2015
Methane conversion factor	2009	0.335	Wirth, 2015
Methane conversion factor	2010	0.309	Wirth, 2015
Methane conversion factor	2011	0.31	Wirth, 2015
Methane conversion factor	2012	0.344	Wirth, 2015
Methane conversion factor	2013	0.339	Wirth, 2015
Methane conversion factor	2014	0.339	Wirth, 2015
Nitrogen excretion rate	2000	478 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	483 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	488 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2003	493 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	499 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	504 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	509 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	514 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	519 g / year	USEPA, 2013d
Proportion in manure management system	2000	0	Wirth, 2015
Proportion in manure management system	2001	0	Wirth, 2015
Proportion in manure management system	2002	0	Wirth, 2015
Proportion in manure management system	2003	0	Wirth, 2015
Proportion in manure management system	2004	0	Wirth, 2015
Proportion in manure management system	2005	0	Wirth, 2015
Proportion in manure management system	2006	0	Wirth, 2015
Proportion in manure management system	2007	0	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015
Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015
Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	24,516,000 head	Wirth, 2015
Total population	2001	24,190,000 head	Wirth, 2015
Total population	2002	23,266,000 head	Wirth, 2015
Total population	2003	20,937,000 head	Wirth, 2015
Total population	2004	19,419,000 head	Wirth, 2015
Total population	2005	19,582,000 head	Wirth, 2015
Total population	2006	19,672,000 head	Wirth, 2015
Total population	2007	20,971,000 head	Wirth, 2015
Total population	2008	20,172,000 head	Wirth, 2015
Total population	2009	19,686,000 head	Wirth, 2015
Total population	2010	19,016,000 head	Wirth, 2015
Total population	2011	19,799,000 head	Wirth, 2015
Total population	2012	19,578,000 head	Wirth, 2015
Total population	2013	17,003,000 head	Wirth, 2015
Total population	2014	14,890,000 head	Wirth, 2015
Volatile solids production rate	2000	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2001	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2002	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2003	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2004	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2005	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2006	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2007	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2008	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2009	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2010	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2011	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2012	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2013	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2014	6.68 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015
Activity = Livestock population - Hens 1+ yr - Poultry without bedding			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Hens 1+ yr	2000	21,574,080 head	Calculation, see text
Livestock population - Hens 1+ yr	2001	21,287,200 head	Calculation, see text
Livestock population - Hens 1+ yr	2002	20,474,080 head	Calculation, see text
Livestock population - Hens 1+ yr	2003	18,424,560 head	Calculation, see text
Livestock population - Hens 1+ yr	2004	17,088,720 head	Calculation, see text
Livestock population - Hens 1+ yr	2005	17,232,160 head	Calculation, see text
Livestock population - Hens 1+ yr	2006	17,311,360 head	Calculation, see text
Livestock population - Hens 1+ yr	2007	18,454,480 head	Calculation, see text
Livestock population - Hens 1+ yr	2008	17,751,360 head	Calculation, see text
Livestock population - Hens 1+ yr	2009	17,323,680 head	Calculation, see text
Livestock population - Hens 1+ yr	2010	16,734,080 head	Calculation, see text
Livestock population - Hens 1+ yr	2011	17,423,120 head	Calculation, see text
Livestock population - Hens 1+ yr	2012	17,228,640 head	Calculation, see text
Livestock population - Hens 1+ yr	2013	14,962,640 head	Calculation, see text
Livestock population - Hens 1+ yr	2014	13,103,200 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	1.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	478 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	483 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	488 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	493 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	499 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	504 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	509 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	514 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	519 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.88	Wirth, 2015
Proportion in manure management system	2001	0.88	Wirth, 2015
Proportion in manure management system	2002	0.88	Wirth, 2015
Proportion in manure management system	2003	0.88	Wirth, 2015
Proportion in manure management system	2004	0.88	Wirth, 2015
Proportion in manure management system	2005	0.88	Wirth, 2015
Proportion in manure management system	2006	0.88	Wirth, 2015
Proportion in manure management system	2007	0.88	Wirth, 2015
Proportion in manure management system	2008	0.88	Wirth, 2015
Proportion in manure management system	2009	0.88	Wirth, 2015
Proportion in manure management system	2010	0.88	Wirth, 2015
Proportion in manure management system	2011	0.88	Wirth, 2015
Proportion in manure management system	2012	0.88	Wirth, 2015
Proportion in manure management system	2013	0.88	Wirth, 2015
Proportion in manure management system	2014	0.88	Wirth, 2015
Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	24,516,000 head	Wirth, 2015
Total population	2001	24,190,000 head	Wirth, 2015
Total population	2002	23,266,000 head	Wirth, 2015
Total population	2003	20,937,000 head	Wirth, 2015
Total population	2004	19,419,000 head	Wirth, 2015
Total population	2005	19,582,000 head	Wirth, 2015
Total population	2006	19,672,000 head	Wirth, 2015
Total population	2007	20,971,000 head	Wirth, 2015
Total population	2008	20,172,000 head	Wirth, 2015
Total population	2009	19,686,000 head	Wirth, 2015
Total population	2010	19,016,000 head	Wirth, 2015
Total population	2011	19,799,000 head	Wirth, 2015
Total population	2012	19,578,000 head	Wirth, 2015
Total population	2013	17,003,000 head	Wirth, 2015
Total population	2014	14,890,000 head	Wirth, 2015
Volatile solids production rate	2000	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2001	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2002	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2003	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2004	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2005	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2006	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2007	6.68 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2008	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2009	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2010	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2011	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2012	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2013	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2014	6.68 kg / year	Wirth, 2015
Volatilized fraction	2000	0.34	Wirth, 2015
Volatilized fraction	2001	0.34	Wirth, 2015
Volatilized fraction	2002	0.34	Wirth, 2015
Volatilized fraction	2003	0.34	Wirth, 2015
Volatilized fraction	2004	0.34	Wirth, 2015
Volatilized fraction	2005	0.34	Wirth, 2015
Volatilized fraction	2006	0.34	Wirth, 2015
Volatilized fraction	2007	0.34	Wirth, 2015
Volatilized fraction	2008	0.34	Wirth, 2015
Volatilized fraction	2009	0.34	Wirth, 2015
Volatilized fraction	2010	0.34	Wirth, 2015
Volatilized fraction	2011	0.34	Wirth, 2015
Volatilized fraction	2012	0.34	Wirth, 2015
Volatilized fraction	2013	0.34	Wirth, 2015
Volatilized fraction	2014	0.34	Wirth, 2015

Activity = Livestock population - Hens 1+ yr - Solid storage

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Hens 1+ yr	2000	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2001	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2002	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2003	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2004	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2005	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2006	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2007	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2008	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2009	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2010	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2011	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2012	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2013	0 head	Calculation, see text
Livestock population - Hens 1+ yr	2014	0 head	Calculation, see text
Direct N as N2O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m3 / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2001	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.04	Wirth, 2015
Methane conversion factor	2001	0.04	Wirth, 2015
Methane conversion factor	2002	0.04	Wirth, 2015
Methane conversion factor	2003	0.04	Wirth, 2015
Methane conversion factor	2004	0.04	Wirth, 2015
Methane conversion factor	2005	0.04	Wirth, 2015
Methane conversion factor	2006	0.04	Wirth, 2015
Methane conversion factor	2007	0.04	Wirth, 2015
Methane conversion factor	2008	0.04	Wirth, 2015
Methane conversion factor	2009	0.04	Wirth, 2015
Methane conversion factor	2010	0.04	Wirth, 2015
Methane conversion factor	2011	0.04	Wirth, 2015
Methane conversion factor	2012	0.04	Wirth, 2015
Methane conversion factor	2013	0.04	Wirth, 2015
Methane conversion factor	2014	0.04	Wirth, 2015
Nitrogen excretion rate	2000	478 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	483 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	488 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	493 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	499 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	504 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	509 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	514 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	519 g / year	USEPA, 2013d
Proportion in manure management system	2000	0	Wirth, 2015
Proportion in manure management system	2001	0	Wirth, 2015
Proportion in manure management system	2002	0	Wirth, 2015
Proportion in manure management system	2003	0	Wirth, 2015
Proportion in manure management system	2004	0	Wirth, 2015
Proportion in manure management system	2005	0	Wirth, 2015
Proportion in manure management system	2006	0	Wirth, 2015
Proportion in manure management system	2007	0	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015
Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	24,516,000 head	Wirth, 2015
Total population	2001	24,190,000 head	Wirth, 2015
Total population	2002	23,266,000 head	Wirth, 2015
Total population	2003	20,937,000 head	Wirth, 2015
Total population	2004	19,419,000 head	Wirth, 2015
Total population	2005	19,582,000 head	Wirth, 2015
Total population	2006	19,672,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2007	20,971,000 head	Wirth, 2015
Total population	2008	20,172,000 head	Wirth, 2015
Total population	2009	19,686,000 head	Wirth, 2015
Total population	2010	19,016,000 head	Wirth, 2015
Total population	2011	19,799,000 head	Wirth, 2015
Total population	2012	19,578,000 head	Wirth, 2015
Total population	2013	17,003,000 head	Wirth, 2015
Total population	2014	14,890,000 head	Wirth, 2015
Volatile solids production rate	2000	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2001	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2002	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2003	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2004	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2005	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2006	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2007	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2008	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2009	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2010	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2011	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2012	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2013	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2014	6.68 kg / year	Wirth, 2015
Volatilized fraction	2000	0.08	Wirth, 2015
Volatilized fraction	2001	0.08	Wirth, 2015
Volatilized fraction	2002	0.08	Wirth, 2015
Volatilized fraction	2003	0.08	Wirth, 2015
Volatilized fraction	2004	0.08	Wirth, 2015
Volatilized fraction	2005	0.08	Wirth, 2015
Volatilized fraction	2006	0.08	Wirth, 2015
Volatilized fraction	2007	0.08	Wirth, 2015
Volatilized fraction	2008	0.08	Wirth, 2015
Volatilized fraction	2009	0.08	Wirth, 2015
Volatilized fraction	2010	0.08	Wirth, 2015
Volatilized fraction	2011	0.08	Wirth, 2015
Volatilized fraction	2012	0.08	Wirth, 2015
Volatilized fraction	2013	0.08	Wirth, 2015
Volatilized fraction	2014	0.08	Wirth, 2015

Activity = Livestock population - Other chickens - Anaerobic lagoon

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Other chickens	2000	16,080 head	Calculation, see text
Livestock population - Other chickens	2001	9,360 head	Calculation, see text
Livestock population - Other chickens	2002	8,160 head	Calculation, see text
Livestock population - Other chickens	2003	7,440 head	Calculation, see text
Livestock population - Other chickens	2004	5,880 head	Calculation, see text
Livestock population - Other chickens	2005	4,920 head	Calculation, see text
Livestock population - Other chickens	2006	6,120 head	Calculation, see text
Livestock population - Other chickens	2007	4,560 head	Calculation, see text
Livestock population - Other chickens	2008	720 head	Calculation, see text
Livestock population - Other chickens	2009	600 head	Calculation, see text
Livestock population - Other chickens	2010	840 head	Calculation, see text
Livestock population - Other chickens	2011	720 head	Calculation, see text
Livestock population - Other chickens	2012	1,200 head	Calculation, see text
Livestock population - Other chickens	2013	2,520 head	Calculation, see text
Livestock population - Other chickens	2014	2,280 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N2O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.729	Wirth, 2015
Methane conversion factor	2001	0.749	Wirth, 2015
Methane conversion factor	2002	0.741	Wirth, 2015
Methane conversion factor	2003	0.753	Wirth, 2015
Methane conversion factor	2004	0.732	Wirth, 2015
Methane conversion factor	2005	0.744	Wirth, 2015
Methane conversion factor	2006	0.736	Wirth, 2015
Methane conversion factor	2007	0.736	Wirth, 2015
Methane conversion factor	2008	0.752	Wirth, 2015
Methane conversion factor	2009	0.743	Wirth, 2015
Methane conversion factor	2010	0.737	Wirth, 2015
Methane conversion factor	2011	0.737	Wirth, 2015
Methane conversion factor	2012	0.759	Wirth, 2015
Methane conversion factor	2013	0.738	Wirth, 2015
Methane conversion factor	2014	0.738	Wirth, 2015
Nitrogen excretion rate	2000	605 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	620 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	634 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	649 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	664 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	679 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	694 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	708 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	723 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2011	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	723 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.12	Wirth, 2015
Proportion in manure management system	2001	0.12	Wirth, 2015
Proportion in manure management system	2002	0.12	Wirth, 2015
Proportion in manure management system	2003	0.12	Wirth, 2015
Proportion in manure management system	2004	0.12	Wirth, 2015
Proportion in manure management system	2005	0.12	Wirth, 2015
Proportion in manure management system	2006	0.12	Wirth, 2015
Proportion in manure management system	2007	0.12	Wirth, 2015
Proportion in manure management system	2008	0.12	Wirth, 2015
Proportion in manure management system	2009	0.12	Wirth, 2015
Proportion in manure management system	2010	0.12	Wirth, 2015
Proportion in manure management system	2011	0.12	Wirth, 2015
Proportion in manure management system	2012	0.12	Wirth, 2015
Proportion in manure management system	2013	0.12	Wirth, 2015
Proportion in manure management system	2014	0.12	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	134,000 head	Wirth, 2015
Total population	2001	78,000 head	Wirth, 2015
Total population	2002	68,000 head	Wirth, 2015
Total population	2003	62,000 head	Wirth, 2015
Total population	2004	49,000 head	Wirth, 2015
Total population	2005	41,000 head	Wirth, 2015
Total population	2006	51,000 head	Wirth, 2015
Total population	2007	38,000 head	Wirth, 2015
Total population	2008	6,000 head	Wirth, 2015
Total population	2009	5,000 head	Wirth, 2015
Total population	2010	7,000 head	Wirth, 2015
Total population	2011	6,000 head	Wirth, 2015
Total population	2012	10,000 head	Wirth, 2015
Total population	2013	21,000 head	Wirth, 2015
Total population	2014	19,000 head	Wirth, 2015
Volatile solids production rate	2000	7.14 kg / year	Wirth, 2015
Volatile solids production rate	2001	7.16 kg / year	Wirth, 2015
Volatile solids production rate	2002	7.17 kg / year	Wirth, 2015
Volatile solids production rate	2003	7.18 kg / year	Wirth, 2015
Volatile solids production rate	2004	7.19 kg / year	Wirth, 2015
Volatile solids production rate	2005	7.2 kg / year	Wirth, 2015
Volatile solids production rate	2006	7.21 kg / year	Wirth, 2015
Volatile solids production rate	2007	7.22 kg / year	Wirth, 2015
Volatile solids production rate	2008	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2009	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2010	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2011	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2012	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2013	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2014	7.23 kg / year	Wirth, 2015
Volatilized fraction	2000	0.54	Wirth, 2015
Volatilized fraction	2001	0.54	Wirth, 2015
Volatilized fraction	2002	0.54	Wirth, 2015
Volatilized fraction	2003	0.54	Wirth, 2015
Volatilized fraction	2004	0.54	Wirth, 2015
Volatilized fraction	2005	0.54	Wirth, 2015
Volatilized fraction	2006	0.54	Wirth, 2015
Volatilized fraction	2007	0.54	Wirth, 2015
Volatilized fraction	2008	0.54	Wirth, 2015
Volatilized fraction	2009	0.54	Wirth, 2015
Volatilized fraction	2010	0.54	Wirth, 2015
Volatilized fraction	2011	0.54	Wirth, 2015
Volatilized fraction	2012	0.54	Wirth, 2015
Volatilized fraction	2013	0.54	Wirth, 2015
Volatilized fraction	2014	0.54	Wirth, 2015

Activity = Livestock population - Other chickens - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Other chickens	2000	0 head	Calculation, see text
Livestock population - Other chickens	2001	0 head	Calculation, see text
Livestock population - Other chickens	2002	0 head	Calculation, see text
Livestock population - Other chickens	2003	0 head	Calculation, see text
Livestock population - Other chickens	2004	0 head	Calculation, see text
Livestock population - Other chickens	2005	0 head	Calculation, see text
Livestock population - Other chickens	2006	0 head	Calculation, see text
Livestock population - Other chickens	2007	0 head	Calculation, see text
Livestock population - Other chickens	2008	0 head	Calculation, see text
Livestock population - Other chickens	2009	0 head	Calculation, see text
Livestock population - Other chickens	2010	0 head	Calculation, see text
Livestock population - Other chickens	2011	0 head	Calculation, see text
Livestock population - Other chickens	2012	0 head	Calculation, see text
Livestock population - Other chickens	2013	0 head	Calculation, see text
Livestock population - Other chickens	2014	0 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.331	Wirth, 2015
Methane conversion factor	2001	0.346	Wirth, 2015
Methane conversion factor	2002	0.333	Wirth, 2015
Methane conversion factor	2003	0.349	Wirth, 2015
Methane conversion factor	2004	0.329	Wirth, 2015
Methane conversion factor	2005	0.325	Wirth, 2015
Methane conversion factor	2006	0.336	Wirth, 2015
Methane conversion factor	2007	0.335	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2008	0.342	Wirth, 2015
Methane conversion factor	2009	0.335	Wirth, 2015
Methane conversion factor	2010	0.309	Wirth, 2015
Methane conversion factor	2011	0.31	Wirth, 2015
Methane conversion factor	2012	0.344	Wirth, 2015
Methane conversion factor	2013	0.339	Wirth, 2015
Methane conversion factor	2014	0.339	Wirth, 2015
Nitrogen excretion rate	2000	605 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	620 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	634 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	649 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	664 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	679 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	694 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	708 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	723 g / year	USEPA, 2013d
Proportion in manure management system	2000	0	Wirth, 2015
Proportion in manure management system	2001	0	Wirth, 2015
Proportion in manure management system	2002	0	Wirth, 2015
Proportion in manure management system	2003	0	Wirth, 2015
Proportion in manure management system	2004	0	Wirth, 2015
Proportion in manure management system	2005	0	Wirth, 2015
Proportion in manure management system	2006	0	Wirth, 2015
Proportion in manure management system	2007	0	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015
Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015
Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	134,000 head	Wirth, 2015
Total population	2001	78,000 head	Wirth, 2015
Total population	2002	68,000 head	Wirth, 2015
Total population	2003	62,000 head	Wirth, 2015
Total population	2004	49,000 head	Wirth, 2015
Total population	2005	41,000 head	Wirth, 2015
Total population	2006	51,000 head	Wirth, 2015
Total population	2007	38,000 head	Wirth, 2015
Total population	2008	6,000 head	Wirth, 2015
Total population	2009	5,000 head	Wirth, 2015
Total population	2010	7,000 head	Wirth, 2015
Total population	2011	6,000 head	Wirth, 2015
Total population	2012	10,000 head	Wirth, 2015
Total population	2013	21,000 head	Wirth, 2015
Total population	2014	19,000 head	Wirth, 2015
Volatile solids production rate	2000	7.14 kg / year	Wirth, 2015
Volatile solids production rate	2001	7.16 kg / year	Wirth, 2015
Volatile solids production rate	2002	7.17 kg / year	Wirth, 2015
Volatile solids production rate	2003	7.18 kg / year	Wirth, 2015
Volatile solids production rate	2004	7.19 kg / year	Wirth, 2015
Volatile solids production rate	2005	7.2 kg / year	Wirth, 2015
Volatile solids production rate	2006	7.21 kg / year	Wirth, 2015
Volatile solids production rate	2007	7.22 kg / year	Wirth, 2015
Volatile solids production rate	2008	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2009	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2010	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2011	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2012	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2013	7.23 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2014	7.23 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015

Activity = Livestock population - Other chickens - Poultry without bedding

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Other chickens	2000	117,920 head	Calculation, see text
Livestock population - Other chickens	2001	68,640 head	Calculation, see text
Livestock population - Other chickens	2002	59,840 head	Calculation, see text
Livestock population - Other chickens	2003	54,560 head	Calculation, see text
Livestock population - Other chickens	2004	43,120 head	Calculation, see text
Livestock population - Other chickens	2005	36,080 head	Calculation, see text
Livestock population - Other chickens	2006	44,880 head	Calculation, see text
Livestock population - Other chickens	2007	33,440 head	Calculation, see text
Livestock population - Other chickens	2008	5,280 head	Calculation, see text
Livestock population - Other chickens	2009	4,400 head	Calculation, see text
Livestock population - Other chickens	2010	6,160 head	Calculation, see text
Livestock population - Other chickens	2011	5,280 head	Calculation, see text
Livestock population - Other chickens	2012	8,800 head	Calculation, see text
Livestock population - Other chickens	2013	18,480 head	Calculation, see text
Livestock population - Other chickens	2014	16,720 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	1.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m ³ / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2007	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	605 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	620 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	634 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	649 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	664 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	679 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	694 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	708 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	723 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.88	Wirth, 2015
Proportion in manure management system	2001	0.88	Wirth, 2015
Proportion in manure management system	2002	0.88	Wirth, 2015
Proportion in manure management system	2003	0.88	Wirth, 2015
Proportion in manure management system	2004	0.88	Wirth, 2015
Proportion in manure management system	2005	0.88	Wirth, 2015
Proportion in manure management system	2006	0.88	Wirth, 2015
Proportion in manure management system	2007	0.88	Wirth, 2015
Proportion in manure management system	2008	0.88	Wirth, 2015
Proportion in manure management system	2009	0.88	Wirth, 2015
Proportion in manure management system	2010	0.88	Wirth, 2015
Proportion in manure management system	2011	0.88	Wirth, 2015
Proportion in manure management system	2012	0.88	Wirth, 2015
Proportion in manure management system	2013	0.88	Wirth, 2015
Proportion in manure management system	2014	0.88	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	134,000 head	Wirth, 2015
Total population	2001	78,000 head	Wirth, 2015
Total population	2002	68,000 head	Wirth, 2015
Total population	2003	62,000 head	Wirth, 2015
Total population	2004	49,000 head	Wirth, 2015
Total population	2005	41,000 head	Wirth, 2015
Total population	2006	51,000 head	Wirth, 2015
Total population	2007	38,000 head	Wirth, 2015
Total population	2008	6,000 head	Wirth, 2015
Total population	2009	5,000 head	Wirth, 2015
Total population	2010	7,000 head	Wirth, 2015
Total population	2011	6,000 head	Wirth, 2015
Total population	2012	10,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2013	21,000 head	Wirth, 2015
Total population	2014	19,000 head	Wirth, 2015
Volatile solids production rate	2000	7.14 kg / year	Wirth, 2015
Volatile solids production rate	2001	7.16 kg / year	Wirth, 2015
Volatile solids production rate	2002	7.17 kg / year	Wirth, 2015
Volatile solids production rate	2003	7.18 kg / year	Wirth, 2015
Volatile solids production rate	2004	7.19 kg / year	Wirth, 2015
Volatile solids production rate	2005	7.2 kg / year	Wirth, 2015
Volatile solids production rate	2006	7.21 kg / year	Wirth, 2015
Volatile solids production rate	2007	7.22 kg / year	Wirth, 2015
Volatile solids production rate	2008	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2009	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2010	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2011	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2012	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2013	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2014	7.23 kg / year	Wirth, 2015
Volatilized fraction	2000	0.34	Wirth, 2015
Volatilized fraction	2001	0.34	Wirth, 2015
Volatilized fraction	2002	0.34	Wirth, 2015
Volatilized fraction	2003	0.34	Wirth, 2015
Volatilized fraction	2004	0.34	Wirth, 2015
Volatilized fraction	2005	0.34	Wirth, 2015
Volatilized fraction	2006	0.34	Wirth, 2015
Volatilized fraction	2007	0.34	Wirth, 2015
Volatilized fraction	2008	0.34	Wirth, 2015
Volatilized fraction	2009	0.34	Wirth, 2015
Volatilized fraction	2010	0.34	Wirth, 2015
Volatilized fraction	2011	0.34	Wirth, 2015
Volatilized fraction	2012	0.34	Wirth, 2015
Volatilized fraction	2013	0.34	Wirth, 2015
Volatilized fraction	2014	0.34	Wirth, 2015

Activity = Livestock population - Other chickens - Solid storage

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Other chickens	2000	0 head	Calculation, see text
Livestock population - Other chickens	2001	0 head	Calculation, see text
Livestock population - Other chickens	2002	0 head	Calculation, see text
Livestock population - Other chickens	2003	0 head	Calculation, see text
Livestock population - Other chickens	2004	0 head	Calculation, see text
Livestock population - Other chickens	2005	0 head	Calculation, see text
Livestock population - Other chickens	2006	0 head	Calculation, see text
Livestock population - Other chickens	2007	0 head	Calculation, see text
Livestock population - Other chickens	2008	0 head	Calculation, see text
Livestock population - Other chickens	2009	0 head	Calculation, see text
Livestock population - Other chickens	2010	0 head	Calculation, see text
Livestock population - Other chickens	2011	0 head	Calculation, see text
Livestock population - Other chickens	2012	0 head	Calculation, see text
Livestock population - Other chickens	2013	0 head	Calculation, see text
Livestock population - Other chickens	2014	0 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.04	Wirth, 2015
Methane conversion factor	2001	0.04	Wirth, 2015
Methane conversion factor	2002	0.04	Wirth, 2015
Methane conversion factor	2003	0.04	Wirth, 2015
Methane conversion factor	2004	0.04	Wirth, 2015
Methane conversion factor	2005	0.04	Wirth, 2015
Methane conversion factor	2006	0.04	Wirth, 2015
Methane conversion factor	2007	0.04	Wirth, 2015
Methane conversion factor	2008	0.04	Wirth, 2015
Methane conversion factor	2009	0.04	Wirth, 2015
Methane conversion factor	2010	0.04	Wirth, 2015
Methane conversion factor	2011	0.04	Wirth, 2015
Methane conversion factor	2012	0.04	Wirth, 2015
Methane conversion factor	2013	0.04	Wirth, 2015
Methane conversion factor	2014	0.04	Wirth, 2015
Nitrogen excretion rate	2000	605 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	620 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	634 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	649 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	664 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	679 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	694 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	708 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	723 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	723 g / year	USEPA, 2013d
Proportion in manure management system	2000	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2001	0	Wirth, 2015
Proportion in manure management system	2002	0	Wirth, 2015
Proportion in manure management system	2003	0	Wirth, 2015
Proportion in manure management system	2004	0	Wirth, 2015
Proportion in manure management system	2005	0	Wirth, 2015
Proportion in manure management system	2006	0	Wirth, 2015
Proportion in manure management system	2007	0	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015
Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015
Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	134,000 head	Wirth, 2015
Total population	2001	78,000 head	Wirth, 2015
Total population	2002	68,000 head	Wirth, 2015
Total population	2003	62,000 head	Wirth, 2015
Total population	2004	49,000 head	Wirth, 2015
Total population	2005	41,000 head	Wirth, 2015
Total population	2006	51,000 head	Wirth, 2015
Total population	2007	38,000 head	Wirth, 2015
Total population	2008	6,000 head	Wirth, 2015
Total population	2009	5,000 head	Wirth, 2015
Total population	2010	7,000 head	Wirth, 2015
Total population	2011	6,000 head	Wirth, 2015
Total population	2012	10,000 head	Wirth, 2015
Total population	2013	21,000 head	Wirth, 2015
Total population	2014	19,000 head	Wirth, 2015
Volatile solids production rate	2000	7.14 kg / year	Wirth, 2015
Volatile solids production rate	2001	7.16 kg / year	Wirth, 2015
Volatile solids production rate	2002	7.17 kg / year	Wirth, 2015
Volatile solids production rate	2003	7.18 kg / year	Wirth, 2015
Volatile solids production rate	2004	7.19 kg / year	Wirth, 2015
Volatile solids production rate	2005	7.2 kg / year	Wirth, 2015
Volatile solids production rate	2006	7.21 kg / year	Wirth, 2015
Volatile solids production rate	2007	7.22 kg / year	Wirth, 2015
Volatile solids production rate	2008	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2009	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2010	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2011	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2012	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2013	7.23 kg / year	Wirth, 2015
Volatile solids production rate	2014	7.23 kg / year	Wirth, 2015
Volatilized fraction	2000	0.08	Wirth, 2015
Volatilized fraction	2001	0.08	Wirth, 2015
Volatilized fraction	2002	0.08	Wirth, 2015
Volatilized fraction	2003	0.08	Wirth, 2015
Volatilized fraction	2004	0.08	Wirth, 2015
Volatilized fraction	2005	0.08	Wirth, 2015
Volatilized fraction	2006	0.08	Wirth, 2015
Volatilized fraction	2007	0.08	Wirth, 2015
Volatilized fraction	2008	0.08	Wirth, 2015
Volatilized fraction	2009	0.08	Wirth, 2015
Volatilized fraction	2010	0.08	Wirth, 2015
Volatilized fraction	2011	0.08	Wirth, 2015
Volatilized fraction	2012	0.08	Wirth, 2015
Volatilized fraction	2013	0.08	Wirth, 2015
Volatilized fraction	2014	0.08	Wirth, 2015

Activity = Livestock population - Pullets - Anaerobic lagoon

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Pullets	2000	662,400 head	Calculation, see text
Livestock population - Pullets	2001	600,240 head	Calculation, see text
Livestock population - Pullets	2002	586,080 head	Calculation, see text
Livestock population - Pullets	2003	597,840 head	Calculation, see text
Livestock population - Pullets	2004	504,960 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Pullets	2005	482,040 head	Calculation, see text
Livestock population - Pullets	2006	386,040 head	Calculation, see text
Livestock population - Pullets	2007	513,720 head	Calculation, see text
Livestock population - Pullets	2008	485,040 head	Calculation, see text
Livestock population - Pullets	2009	471,960 head	Calculation, see text
Livestock population - Pullets	2010	578,040 head	Calculation, see text
Livestock population - Pullets	2011	579,480 head	Calculation, see text
Livestock population - Pullets	2012	521,400 head	Calculation, see text
Livestock population - Pullets	2013	450,240 head	Calculation, see text
Livestock population - Pullets	2014	324,480 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.729	Wirth, 2015
Methane conversion factor	2001	0.749	Wirth, 2015
Methane conversion factor	2002	0.741	Wirth, 2015
Methane conversion factor	2003	0.753	Wirth, 2015
Methane conversion factor	2004	0.732	Wirth, 2015
Methane conversion factor	2005	0.744	Wirth, 2015
Methane conversion factor	2006	0.736	Wirth, 2015
Methane conversion factor	2007	0.736	Wirth, 2015
Methane conversion factor	2008	0.752	Wirth, 2015
Methane conversion factor	2009	0.743	Wirth, 2015
Methane conversion factor	2010	0.737	Wirth, 2015
Methane conversion factor	2011	0.737	Wirth, 2015
Methane conversion factor	2012	0.759	Wirth, 2015
Methane conversion factor	2013	0.738	Wirth, 2015
Methane conversion factor	2014	0.738	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2000	478 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	483 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	488 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	493 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	499 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	504 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	509 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	514 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	519 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.12	Wirth, 2015
Proportion in manure management system	2001	0.12	Wirth, 2015
Proportion in manure management system	2002	0.12	Wirth, 2015
Proportion in manure management system	2003	0.12	Wirth, 2015
Proportion in manure management system	2004	0.12	Wirth, 2015
Proportion in manure management system	2005	0.12	Wirth, 2015
Proportion in manure management system	2006	0.12	Wirth, 2015
Proportion in manure management system	2007	0.12	Wirth, 2015
Proportion in manure management system	2008	0.12	Wirth, 2015
Proportion in manure management system	2009	0.12	Wirth, 2015
Proportion in manure management system	2010	0.12	Wirth, 2015
Proportion in manure management system	2011	0.12	Wirth, 2015
Proportion in manure management system	2012	0.12	Wirth, 2015
Proportion in manure management system	2013	0.12	Wirth, 2015
Proportion in manure management system	2014	0.12	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	5,520,000 head	Wirth, 2015
Total population	2001	5,002,000 head	Wirth, 2015
Total population	2002	4,884,000 head	Wirth, 2015
Total population	2003	4,982,000 head	Wirth, 2015
Total population	2004	4,208,000 head	Wirth, 2015
Total population	2005	4,017,000 head	Wirth, 2015
Total population	2006	3,217,000 head	Wirth, 2015
Total population	2007	4,281,000 head	Wirth, 2015
Total population	2008	4,042,000 head	Wirth, 2015
Total population	2009	3,933,000 head	Wirth, 2015
Total population	2010	4,817,000 head	Wirth, 2015
Total population	2011	4,829,000 head	Wirth, 2015
Total population	2012	4,345,000 head	Wirth, 2015
Total population	2013	3,752,000 head	Wirth, 2015
Total population	2014	2,704,000 head	Wirth, 2015
Volatile solids production rate	2000	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2001	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2002	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2003	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2004	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2005	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2006	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2007	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2008	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2009	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2010	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2011	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2012	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2013	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2014	6.68 kg / year	Wirth, 2015
Volatilized fraction	2000	0.54	Wirth, 2015
Volatilized fraction	2001	0.54	Wirth, 2015
Volatilized fraction	2002	0.54	Wirth, 2015
Volatilized fraction	2003	0.54	Wirth, 2015
Volatilized fraction	2004	0.54	Wirth, 2015
Volatilized fraction	2005	0.54	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatilized fraction	2006	0.54	Wirth, 2015
Volatilized fraction	2007	0.54	Wirth, 2015
Volatilized fraction	2008	0.54	Wirth, 2015
Volatilized fraction	2009	0.54	Wirth, 2015
Volatilized fraction	2010	0.54	Wirth, 2015
Volatilized fraction	2011	0.54	Wirth, 2015
Volatilized fraction	2012	0.54	Wirth, 2015
Volatilized fraction	2013	0.54	Wirth, 2015
Volatilized fraction	2014	0.54	Wirth, 2015

Activity = Livestock population - Pullets - Liquid/slurry

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Pullets	2000	0 head	Calculation, see text
Livestock population - Pullets	2001	0 head	Calculation, see text
Livestock population - Pullets	2002	0 head	Calculation, see text
Livestock population - Pullets	2003	0 head	Calculation, see text
Livestock population - Pullets	2004	0 head	Calculation, see text
Livestock population - Pullets	2005	0 head	Calculation, see text
Livestock population - Pullets	2006	0 head	Calculation, see text
Livestock population - Pullets	2007	0 head	Calculation, see text
Livestock population - Pullets	2008	0 head	Calculation, see text
Livestock population - Pullets	2009	0 head	Calculation, see text
Livestock population - Pullets	2010	0 head	Calculation, see text
Livestock population - Pullets	2011	0 head	Calculation, see text
Livestock population - Pullets	2012	0 head	Calculation, see text
Livestock population - Pullets	2013	0 head	Calculation, see text
Livestock population - Pullets	2014	0 head	Calculation, see text
Direct N as N2O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m3 / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2014	0.39 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.331	Wirth, 2015
Methane conversion factor	2001	0.346	Wirth, 2015
Methane conversion factor	2002	0.333	Wirth, 2015
Methane conversion factor	2003	0.349	Wirth, 2015
Methane conversion factor	2004	0.329	Wirth, 2015
Methane conversion factor	2005	0.325	Wirth, 2015
Methane conversion factor	2006	0.336	Wirth, 2015
Methane conversion factor	2007	0.335	Wirth, 2015
Methane conversion factor	2008	0.342	Wirth, 2015
Methane conversion factor	2009	0.335	Wirth, 2015
Methane conversion factor	2010	0.309	Wirth, 2015
Methane conversion factor	2011	0.31	Wirth, 2015
Methane conversion factor	2012	0.344	Wirth, 2015
Methane conversion factor	2013	0.339	Wirth, 2015
Methane conversion factor	2014	0.339	Wirth, 2015
Nitrogen excretion rate	2000	478 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	483 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	488 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	493 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	499 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	504 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	509 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	514 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	519 g / year	USEPA, 2013d
Proportion in manure management system	2000	0	Wirth, 2015
Proportion in manure management system	2001	0	Wirth, 2015
Proportion in manure management system	2002	0	Wirth, 2015
Proportion in manure management system	2003	0	Wirth, 2015
Proportion in manure management system	2004	0	Wirth, 2015
Proportion in manure management system	2005	0	Wirth, 2015
Proportion in manure management system	2006	0	Wirth, 2015
Proportion in manure management system	2007	0	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015
Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015
Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	8.000E-03	Wirth, 2015
Runoff fraction	2001	8.000E-03	Wirth, 2015
Runoff fraction	2002	8.000E-03	Wirth, 2015
Runoff fraction	2003	8.000E-03	Wirth, 2015
Runoff fraction	2004	8.000E-03	Wirth, 2015
Runoff fraction	2005	8.000E-03	Wirth, 2015
Runoff fraction	2006	8.000E-03	Wirth, 2015
Runoff fraction	2007	8.000E-03	Wirth, 2015
Runoff fraction	2008	8.000E-03	Wirth, 2015
Runoff fraction	2009	8.000E-03	Wirth, 2015
Runoff fraction	2010	8.000E-03	Wirth, 2015
Runoff fraction	2011	8.000E-03	Wirth, 2015
Runoff fraction	2012	8.000E-03	Wirth, 2015
Runoff fraction	2013	8.000E-03	Wirth, 2015
Runoff fraction	2014	8.000E-03	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	5,520,000 head	Wirth, 2015
Total population	2001	5,002,000 head	Wirth, 2015
Total population	2002	4,884,000 head	Wirth, 2015
Total population	2003	4,982,000 head	Wirth, 2015
Total population	2004	4,208,000 head	Wirth, 2015
Total population	2005	4,017,000 head	Wirth, 2015
Total population	2006	3,217,000 head	Wirth, 2015
Total population	2007	4,281,000 head	Wirth, 2015
Total population	2008	4,042,000 head	Wirth, 2015
Total population	2009	3,933,000 head	Wirth, 2015
Total population	2010	4,817,000 head	Wirth, 2015
Total population	2011	4,829,000 head	Wirth, 2015
Total population	2012	4,345,000 head	Wirth, 2015
Total population	2013	3,752,000 head	Wirth, 2015
Total population	2014	2,704,000 head	Wirth, 2015
Volatile solids production rate	2000	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2001	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2002	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2003	6.66 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2004	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2005	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2006	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2007	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2008	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2009	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2010	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2011	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2012	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2013	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2014	6.68 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015

Activity = Livestock population - Pullets - Poultry without bedding

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Pullets	2000	4,857,600 head	Calculation, see text
Livestock population - Pullets	2001	4,401,760 head	Calculation, see text
Livestock population - Pullets	2002	4,297,920 head	Calculation, see text
Livestock population - Pullets	2003	4,384,160 head	Calculation, see text
Livestock population - Pullets	2004	3,703,040 head	Calculation, see text
Livestock population - Pullets	2005	3,534,960 head	Calculation, see text
Livestock population - Pullets	2006	2,830,960 head	Calculation, see text
Livestock population - Pullets	2007	3,767,280 head	Calculation, see text
Livestock population - Pullets	2008	3,556,960 head	Calculation, see text
Livestock population - Pullets	2009	3,461,040 head	Calculation, see text
Livestock population - Pullets	2010	4,238,960 head	Calculation, see text
Livestock population - Pullets	2011	4,249,520 head	Calculation, see text
Livestock population - Pullets	2012	3,823,600 head	Calculation, see text
Livestock population - Pullets	2013	3,301,760 head	Calculation, see text
Livestock population - Pullets	2014	2,379,520 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	1.000E-03 g / g	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Direct N as N ₂ O emission factor	2012	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	1.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	1.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	478 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	483 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	488 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	493 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	499 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	504 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	509 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	514 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	519 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.88	Wirth, 2015
Proportion in manure management system	2001	0.88	Wirth, 2015
Proportion in manure management system	2002	0.88	Wirth, 2015
Proportion in manure management system	2003	0.88	Wirth, 2015
Proportion in manure management system	2004	0.88	Wirth, 2015
Proportion in manure management system	2005	0.88	Wirth, 2015
Proportion in manure management system	2006	0.88	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2007	0.88	Wirth, 2015
Proportion in manure management system	2008	0.88	Wirth, 2015
Proportion in manure management system	2009	0.88	Wirth, 2015
Proportion in manure management system	2010	0.88	Wirth, 2015
Proportion in manure management system	2011	0.88	Wirth, 2015
Proportion in manure management system	2012	0.88	Wirth, 2015
Proportion in manure management system	2013	0.88	Wirth, 2015
Proportion in manure management system	2014	0.88	Wirth, 2015
Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	5,520,000 head	Wirth, 2015
Total population	2001	5,002,000 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2002	4,884,000 head	Wirth, 2015
Total population	2003	4,982,000 head	Wirth, 2015
Total population	2004	4,208,000 head	Wirth, 2015
Total population	2005	4,017,000 head	Wirth, 2015
Total population	2006	3,217,000 head	Wirth, 2015
Total population	2007	4,281,000 head	Wirth, 2015
Total population	2008	4,042,000 head	Wirth, 2015
Total population	2009	3,933,000 head	Wirth, 2015
Total population	2010	4,817,000 head	Wirth, 2015
Total population	2011	4,829,000 head	Wirth, 2015
Total population	2012	4,345,000 head	Wirth, 2015
Total population	2013	3,752,000 head	Wirth, 2015
Total population	2014	2,704,000 head	Wirth, 2015
Volatile solids production rate	2000	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2001	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2002	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2003	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2004	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2005	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2006	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2007	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2008	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2009	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2010	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2011	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2012	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2013	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2014	6.68 kg / year	Wirth, 2015
Volatilized fraction	2000	0.34	Wirth, 2015
Volatilized fraction	2001	0.34	Wirth, 2015
Volatilized fraction	2002	0.34	Wirth, 2015
Volatilized fraction	2003	0.34	Wirth, 2015
Volatilized fraction	2004	0.34	Wirth, 2015
Volatilized fraction	2005	0.34	Wirth, 2015
Volatilized fraction	2006	0.34	Wirth, 2015
Volatilized fraction	2007	0.34	Wirth, 2015
Volatilized fraction	2008	0.34	Wirth, 2015
Volatilized fraction	2009	0.34	Wirth, 2015
Volatilized fraction	2010	0.34	Wirth, 2015
Volatilized fraction	2011	0.34	Wirth, 2015
Volatilized fraction	2012	0.34	Wirth, 2015
Volatilized fraction	2013	0.34	Wirth, 2015
Volatilized fraction	2014	0.34	Wirth, 2015

Activity = Livestock population - Pullets - Solid storage

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Pullets	2000	0 head	Calculation, see text
Livestock population - Pullets	2001	0 head	Calculation, see text
Livestock population - Pullets	2002	0 head	Calculation, see text
Livestock population - Pullets	2003	0 head	Calculation, see text
Livestock population - Pullets	2004	0 head	Calculation, see text
Livestock population - Pullets	2005	0 head	Calculation, see text
Livestock population - Pullets	2006	0 head	Calculation, see text
Livestock population - Pullets	2007	0 head	Calculation, see text
Livestock population - Pullets	2008	0 head	Calculation, see text
Livestock population - Pullets	2009	0 head	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Livestock population - Pullets	2010	0 head	Calculation, see text
Livestock population - Pullets	2011	0 head	Calculation, see text
Livestock population - Pullets	2012	0 head	Calculation, see text
Livestock population - Pullets	2013	0 head	Calculation, see text
Livestock population - Pullets	2014	0 head	Calculation, see text
Direct N as N ₂ O emission factor	2000	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2001	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2002	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2003	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2004	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2005	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2006	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2007	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2008	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2009	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2010	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2011	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2012	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2013	5.000E-03 g / g	USEPA, 2013d
Direct N as N ₂ O emission factor	2014	5.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.39 m ³ / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.39 m ³ / kg	USEPA, 2013d
Methane conversion factor	2000	0.04	Wirth, 2015
Methane conversion factor	2001	0.04	Wirth, 2015
Methane conversion factor	2002	0.04	Wirth, 2015
Methane conversion factor	2003	0.04	Wirth, 2015
Methane conversion factor	2004	0.04	Wirth, 2015
Methane conversion factor	2005	0.04	Wirth, 2015
Methane conversion factor	2006	0.04	Wirth, 2015
Methane conversion factor	2007	0.04	Wirth, 2015
Methane conversion factor	2008	0.04	Wirth, 2015
Methane conversion factor	2009	0.04	Wirth, 2015
Methane conversion factor	2010	0.04	Wirth, 2015
Methane conversion factor	2011	0.02	Wirth, 2015
Methane conversion factor	2012	0.04	Wirth, 2015
Methane conversion factor	2013	0.04	Wirth, 2015
Methane conversion factor	2014	0.04	Wirth, 2015
Nitrogen excretion rate	2000	478 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	483 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	488 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	493 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	499 g / year	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Nitrogen excretion rate	2005	504 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	509 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	514 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	519 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	519 g / year	USEPA, 2013d
Proportion in manure management system	2000	0	Wirth, 2015
Proportion in manure management system	2001	0	Wirth, 2015
Proportion in manure management system	2002	0	Wirth, 2015
Proportion in manure management system	2003	0	Wirth, 2015
Proportion in manure management system	2004	0	Wirth, 2015
Proportion in manure management system	2005	0	Wirth, 2015
Proportion in manure management system	2006	0	Wirth, 2015
Proportion in manure management system	2007	0	Wirth, 2015
Proportion in manure management system	2008	0	Wirth, 2015
Proportion in manure management system	2009	0	Wirth, 2015
Proportion in manure management system	2010	0	Wirth, 2015
Proportion in manure management system	2011	0	Wirth, 2015
Proportion in manure management system	2012	0	Wirth, 2015
Proportion in manure management system	2013	0	Wirth, 2015
Proportion in manure management system	2014	0	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff nitrogen emitted as N2O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N2O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	5,520,000 head	Wirth, 2015
Total population	2001	5,002,000 head	Wirth, 2015
Total population	2002	4,884,000 head	Wirth, 2015
Total population	2003	4,982,000 head	Wirth, 2015
Total population	2004	4,208,000 head	Wirth, 2015
Total population	2005	4,017,000 head	Wirth, 2015
Total population	2006	3,217,000 head	Wirth, 2015
Total population	2007	4,281,000 head	Wirth, 2015
Total population	2008	4,042,000 head	Wirth, 2015
Total population	2009	3,933,000 head	Wirth, 2015
Total population	2010	4,817,000 head	Wirth, 2015
Total population	2011	4,829,000 head	Wirth, 2015
Total population	2012	4,345,000 head	Wirth, 2015
Total population	2013	3,752,000 head	Wirth, 2015
Total population	2014	2,704,000 head	Wirth, 2015
Volatile solids production rate	2000	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2001	6.65 kg / year	Wirth, 2015
Volatile solids production rate	2002	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2003	6.66 kg / year	Wirth, 2015
Volatile solids production rate	2004	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2005	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2006	6.67 kg / year	Wirth, 2015
Volatile solids production rate	2007	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2008	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2009	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2010	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2011	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2012	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2013	6.68 kg / year	Wirth, 2015
Volatile solids production rate	2014	6.68 kg / year	Wirth, 2015
Volatilized fraction	2000	0.08	Wirth, 2015
Volatilized fraction	2001	0.08	Wirth, 2015
Volatilized fraction	2002	0.08	Wirth, 2015
Volatilized fraction	2003	0.08	Wirth, 2015
Volatilized fraction	2004	0.08	Wirth, 2015
Volatilized fraction	2005	0.08	Wirth, 2015
Volatilized fraction	2006	0.08	Wirth, 2015
Volatilized fraction	2007	0.08	Wirth, 2015
Volatilized fraction	2008	0.08	Wirth, 2015
Volatilized fraction	2009	0.08	Wirth, 2015
Volatilized fraction	2010	0.08	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatileized fraction	2011	0.08	Wirth, 2015
Volatileized fraction	2012	0.08	Wirth, 2015
Volatileized fraction	2013	0.08	Wirth, 2015
Volatileized fraction	2014	0.08	Wirth, 2015

Activity = Livestock population - Turkeys - Pasture

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Turkeys	2000	60,000 head	Calculation, see text
Livestock population - Turkeys	2001	62,333 head	Calculation, see text
Livestock population - Turkeys	2002	59,000 head	Calculation, see text
Livestock population - Turkeys	2003	57,667 head	Calculation, see text
Livestock population - Turkeys	2004	52,333 head	Calculation, see text
Livestock population - Turkeys	2005	48,333 head	Calculation, see text
Livestock population - Turkeys	2006	52,667 head	Calculation, see text
Livestock population - Turkeys	2007	54,000 head	Calculation, see text
Livestock population - Turkeys	2008	53,333 head	Calculation, see text
Livestock population - Turkeys	2009	50,000 head	Calculation, see text
Livestock population - Turkeys	2010	50,667 head	Calculation, see text
Livestock population - Turkeys	2011	50,000 head	Calculation, see text
Livestock population - Turkeys	2012	51,667 head	Calculation, see text
Livestock population - Turkeys	2013	43,333 head	Calculation, see text
Livestock population - Turkeys	2014	36,667 head	Calculation, see text
Direct N as N2O emission factor	2000	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2001	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2002	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2003	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2004	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2005	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2006	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2007	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2008	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2009	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2010	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2011	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2012	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2013	0 g / g	USEPA, 2013d
Direct N as N2O emission factor	2014	0 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2003	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.36 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	1,743 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	1,719 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	1,695 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	1,671 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	1,648 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	1,624 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	1,600 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	1,576 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	1,552 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.01	Wirth, 2015
Proportion in manure management system	2001	0.01	Wirth, 2015
Proportion in manure management system	2002	0.01	Wirth, 2015
Proportion in manure management system	2003	0.01	Wirth, 2015
Proportion in manure management system	2004	0.01	Wirth, 2015
Proportion in manure management system	2005	0.01	Wirth, 2015
Proportion in manure management system	2006	0.01	Wirth, 2015
Proportion in manure management system	2007	0.01	Wirth, 2015
Proportion in manure management system	2008	0.01	Wirth, 2015
Proportion in manure management system	2009	0.01	Wirth, 2015
Proportion in manure management system	2010	0.01	Wirth, 2015
Proportion in manure management system	2011	0.01	Wirth, 2015
Proportion in manure management system	2012	0.01	Wirth, 2015
Proportion in manure management system	2013	0.01	Wirth, 2015
Proportion in manure management system	2014	0.01	Wirth, 2015
Redeposited nitrogen emitted as N2O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N2O	2014	0.01 g / g	IPCC, 2006d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	6,000,000 head	Wirth, 2015
Total population	2001	6,233,333 head	Wirth, 2015
Total population	2002	5,900,000 head	Wirth, 2015
Total population	2003	5,766,667 head	Wirth, 2015
Total population	2004	5,233,333 head	Wirth, 2015
Total population	2005	4,833,333 head	Wirth, 2015
Total population	2006	5,266,667 head	Wirth, 2015
Total population	2007	5,400,000 head	Wirth, 2015
Total population	2008	5,333,333 head	Wirth, 2015
Total population	2009	5,000,000 head	Wirth, 2015
Total population	2010	5,066,667 head	Wirth, 2015
Total population	2011	5,000,000 head	Wirth, 2015
Total population	2012	5,166,667 head	Wirth, 2015
Total population	2013	4,333,333 head	Wirth, 2015
Total population	2014	3,666,667 head	Wirth, 2015
Volatile solids production rate	2000	23.1 kg / year	Wirth, 2015
Volatile solids production rate	2001	22.8 kg / year	Wirth, 2015
Volatile solids production rate	2002	22.5 kg / year	Wirth, 2015
Volatile solids production rate	2003	22.3 kg / year	Wirth, 2015
Volatile solids production rate	2004	22 kg / year	Wirth, 2015
Volatile solids production rate	2005	21.8 kg / year	Wirth, 2015
Volatile solids production rate	2006	21.5 kg / year	Wirth, 2015
Volatile solids production rate	2007	21.2 kg / year	Wirth, 2015
Volatile solids production rate	2008	21 kg / year	Wirth, 2015
Volatile solids production rate	2009	21 kg / year	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Volatile solids production rate	2010	21 kg / year	Wirth, 2015
Volatile solids production rate	2011	21 kg / year	Wirth, 2015
Volatile solids production rate	2012	21 kg / year	Wirth, 2015
Volatile solids production rate	2013	21 kg / year	Wirth, 2015
Volatile solids production rate	2014	21 kg / year	Wirth, 2015
Volatilized fraction	2000	0	Wirth, 2015
Volatilized fraction	2001	0	Wirth, 2015
Volatilized fraction	2002	0	Wirth, 2015
Volatilized fraction	2003	0	Wirth, 2015
Volatilized fraction	2004	0	Wirth, 2015
Volatilized fraction	2005	0	Wirth, 2015
Volatilized fraction	2006	0	Wirth, 2015
Volatilized fraction	2007	0	Wirth, 2015
Volatilized fraction	2008	0	Wirth, 2015
Volatilized fraction	2009	0	Wirth, 2015
Volatilized fraction	2010	0	Wirth, 2015
Volatilized fraction	2011	0	Wirth, 2015
Volatilized fraction	2012	0	Wirth, 2015
Volatilized fraction	2013	0	Wirth, 2015
Volatilized fraction	2014	0	Wirth, 2015

Activity = Livestock population - Turkeys - Poultry with bedding

- Variable Name -	- Year -	- Value and Units -	- Reference -
Livestock population - Turkeys	2000	5,940,000 head	Calculation, see text
Livestock population - Turkeys	2001	6,171,000 head	Calculation, see text
Livestock population - Turkeys	2002	5,841,000 head	Calculation, see text
Livestock population - Turkeys	2003	5,709,000 head	Calculation, see text
Livestock population - Turkeys	2004	5,181,000 head	Calculation, see text
Livestock population - Turkeys	2005	4,785,000 head	Calculation, see text
Livestock population - Turkeys	2006	5,214,000 head	Calculation, see text
Livestock population - Turkeys	2007	5,346,000 head	Calculation, see text
Livestock population - Turkeys	2008	5,280,000 head	Calculation, see text
Livestock population - Turkeys	2009	4,950,000 head	Calculation, see text
Livestock population - Turkeys	2010	5,016,000 head	Calculation, see text
Livestock population - Turkeys	2011	4,950,000 head	Calculation, see text
Livestock population - Turkeys	2012	5,115,000 head	Calculation, see text
Livestock population - Turkeys	2013	4,290,000 head	Calculation, see text
Livestock population - Turkeys	2014	3,630,000 head	Calculation, see text
Direct N as N2O emission factor	2000	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2001	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2002	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2003	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2004	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2005	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2006	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2007	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2008	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2009	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2010	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2011	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2012	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2013	1.000E-03 g / g	USEPA, 2013d
Direct N as N2O emission factor	2014	1.000E-03 g / g	USEPA, 2013d
Maximum methane production capacity	2000	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2001	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2002	0.36 m3 / kg	USEPA, 2013d

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Maximum methane production capacity	2003	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2004	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2005	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2006	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2007	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2008	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2009	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2010	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2011	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2012	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2013	0.36 m3 / kg	USEPA, 2013d
Maximum methane production capacity	2014	0.36 m3 / kg	USEPA, 2013d
Methane conversion factor	2000	0.015	Wirth, 2015
Methane conversion factor	2001	0.015	Wirth, 2015
Methane conversion factor	2002	0.015	Wirth, 2015
Methane conversion factor	2003	0.015	Wirth, 2015
Methane conversion factor	2004	0.015	Wirth, 2015
Methane conversion factor	2005	0.015	Wirth, 2015
Methane conversion factor	2006	0.015	Wirth, 2015
Methane conversion factor	2007	0.015	Wirth, 2015
Methane conversion factor	2008	0.015	Wirth, 2015
Methane conversion factor	2009	0.015	Wirth, 2015
Methane conversion factor	2010	0.015	Wirth, 2015
Methane conversion factor	2011	0.015	Wirth, 2015
Methane conversion factor	2012	0.015	Wirth, 2015
Methane conversion factor	2013	0.015	Wirth, 2015
Methane conversion factor	2014	0.015	Wirth, 2015
Nitrogen excretion rate	2000	1,743 g / year	USEPA, 2013d
Nitrogen excretion rate	2001	1,719 g / year	USEPA, 2013d
Nitrogen excretion rate	2002	1,695 g / year	USEPA, 2013d
Nitrogen excretion rate	2003	1,671 g / year	USEPA, 2013d
Nitrogen excretion rate	2004	1,648 g / year	USEPA, 2013d
Nitrogen excretion rate	2005	1,624 g / year	USEPA, 2013d
Nitrogen excretion rate	2006	1,600 g / year	USEPA, 2013d
Nitrogen excretion rate	2007	1,576 g / year	USEPA, 2013d
Nitrogen excretion rate	2008	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2009	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2010	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2011	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2012	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2013	1,552 g / year	USEPA, 2013d
Nitrogen excretion rate	2014	1,552 g / year	USEPA, 2013d
Proportion in manure management system	2000	0.99	Wirth, 2015
Proportion in manure management system	2001	0.99	Wirth, 2015
Proportion in manure management system	2002	0.99	Wirth, 2015
Proportion in manure management system	2003	0.99	Wirth, 2015
Proportion in manure management system	2004	0.99	Wirth, 2015
Proportion in manure management system	2005	0.99	Wirth, 2015
Proportion in manure management system	2006	0.99	Wirth, 2015
Proportion in manure management system	2007	0.99	Wirth, 2015
Proportion in manure management system	2008	0.99	Wirth, 2015
Proportion in manure management system	2009	0.99	Wirth, 2015
Proportion in manure management system	2010	0.99	Wirth, 2015
Proportion in manure management system	2011	0.99	Wirth, 2015
Proportion in manure management system	2012	0.99	Wirth, 2015
Proportion in manure management system	2013	0.99	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Proportion in manure management system	2014	0.99	Wirth, 2015
Redeposited nitrogen emitted as N ₂ O	2000	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2001	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2002	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2003	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2004	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2005	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2006	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2007	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2008	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2009	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2010	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2011	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2012	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2013	0.01 g / g	IPCC, 2006d
Redeposited nitrogen emitted as N ₂ O	2014	0.01 g / g	IPCC, 2006d
Runoff fraction	2000	0	Wirth, 2015
Runoff fraction	2001	0	Wirth, 2015
Runoff fraction	2002	0	Wirth, 2015
Runoff fraction	2003	0	Wirth, 2015
Runoff fraction	2004	0	Wirth, 2015
Runoff fraction	2005	0	Wirth, 2015
Runoff fraction	2006	0	Wirth, 2015
Runoff fraction	2007	0	Wirth, 2015
Runoff fraction	2008	0	Wirth, 2015
Runoff fraction	2009	0	Wirth, 2015
Runoff fraction	2010	0	Wirth, 2015
Runoff fraction	2011	0	Wirth, 2015
Runoff fraction	2012	0	Wirth, 2015
Runoff fraction	2013	0	Wirth, 2015
Runoff fraction	2014	0	Wirth, 2015
Runoff nitrogen emitted as N ₂ O	2000	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2001	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2002	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2003	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2004	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2005	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2006	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2007	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2008	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2009	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2010	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2011	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2012	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2013	7.500E-03 g / g	IPCC, 2006d
Runoff nitrogen emitted as N ₂ O	2014	7.500E-03 g / g	IPCC, 2006d
Total population	2000	6,000,000 head	Wirth, 2015
Total population	2001	6,233,333 head	Wirth, 2015
Total population	2002	5,900,000 head	Wirth, 2015
Total population	2003	5,766,667 head	Wirth, 2015
Total population	2004	5,233,333 head	Wirth, 2015
Total population	2005	4,833,333 head	Wirth, 2015
Total population	2006	5,266,667 head	Wirth, 2015
Total population	2007	5,400,000 head	Wirth, 2015
Total population	2008	5,333,333 head	Wirth, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Total population	2009	5,000,000 head	Wirth, 2015
Total population	2010	5,066,667 head	Wirth, 2015
Total population	2011	5,000,000 head	Wirth, 2015
Total population	2012	5,166,667 head	Wirth, 2015
Total population	2013	4,333,333 head	Wirth, 2015
Total population	2014	3,666,667 head	Wirth, 2015
Volatile solids production rate	2000	23.1 kg / year	Wirth, 2015
Volatile solids production rate	2001	22.8 kg / year	Wirth, 2015
Volatile solids production rate	2002	22.5 kg / year	Wirth, 2015
Volatile solids production rate	2003	22.3 kg / year	Wirth, 2015
Volatile solids production rate	2004	22 kg / year	Wirth, 2015
Volatile solids production rate	2005	21.8 kg / year	Wirth, 2015
Volatile solids production rate	2006	21.5 kg / year	Wirth, 2015
Volatile solids production rate	2007	21.2 kg / year	Wirth, 2015
Volatile solids production rate	2008	21 kg / year	Wirth, 2015
Volatile solids production rate	2009	21 kg / year	Wirth, 2015
Volatile solids production rate	2010	21 kg / year	Wirth, 2015
Volatile solids production rate	2011	21 kg / year	Wirth, 2015
Volatile solids production rate	2012	21 kg / year	Wirth, 2015
Volatile solids production rate	2013	21 kg / year	Wirth, 2015
Volatile solids production rate	2014	21 kg / year	Wirth, 2015
Volatilized fraction	2000	0.26	Wirth, 2015
Volatilized fraction	2001	0.26	Wirth, 2015
Volatilized fraction	2002	0.26	Wirth, 2015
Volatilized fraction	2003	0.26	Wirth, 2015
Volatilized fraction	2004	0.26	Wirth, 2015
Volatilized fraction	2005	0.26	Wirth, 2015
Volatilized fraction	2006	0.26	Wirth, 2015
Volatilized fraction	2007	0.26	Wirth, 2015
Volatilized fraction	2008	0.26	Wirth, 2015
Volatilized fraction	2009	0.26	Wirth, 2015
Volatilized fraction	2010	0.26	Wirth, 2015
Volatilized fraction	2011	0.26	Wirth, 2015
Volatilized fraction	2012	0.26	Wirth, 2015
Volatilized fraction	2013	0.26	Wirth, 2015
Volatilized fraction	2014	0.26	Wirth, 2015